JANUARY 9, 1943

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meets WAR NEEDS with utmost safety–speed–economy

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PERFORMANCE WILL

Duryea Cushioning rests its case on its wartime record—thousands of vital military freight shipments delivered with *complete protection* from damaging jolts; with greatly reduced packing time and cost.

Only the Duryea floating-cushioning method gives all nine basic safeguards. The savings over old-style draft gear are continuous and significant.

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Already railroads and shippers are looking ahead to post-war days, when outworn, obsolete equipment must be replaced. Duryea Cushion Underframe merits consideration in your future freight program. Get the facts.

Write for illustrated booklet

O. C. DURYEA CORPORATION
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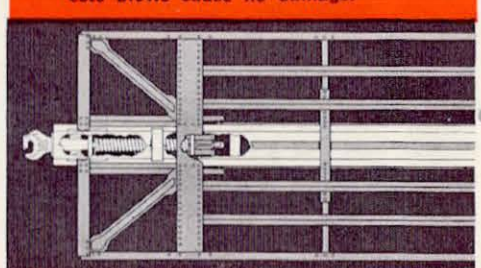
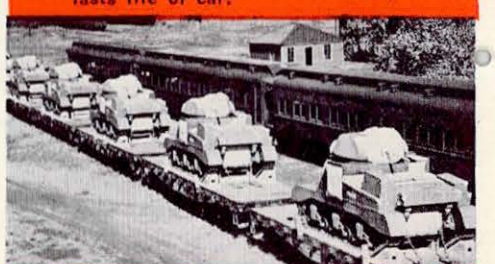
725 Fifteenth Street, N. W., Washington, D. C.

HOW DURYEA CUSHIONING lessens shock. Left: Block of wood (sill) against wall will crack when hit with sledge. Right: With spring allowing block (sill) to slide, hardests blows cause no damage.



PHANTOM VIEW shows how giant springs and floating center sills cushion each wallop, protecting car and contents. Duryea Cushion Gear lasts life of car.



RAILROAD MEN: Duryea Cushioning reduces maintenance cost and damage claims; now costs no more than conventional construction. Plan for the future—investigate now.

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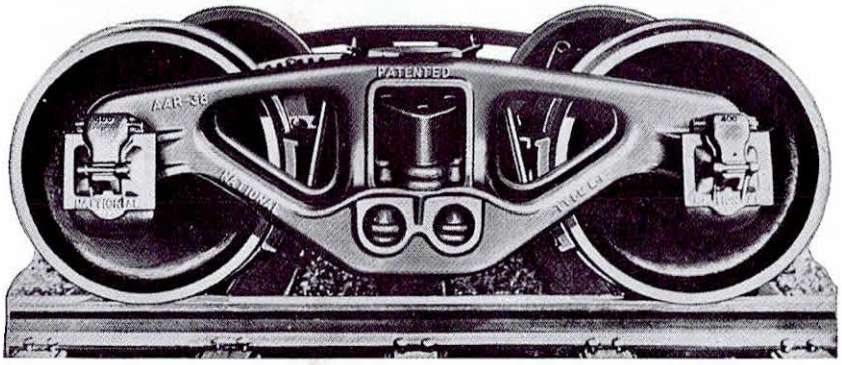
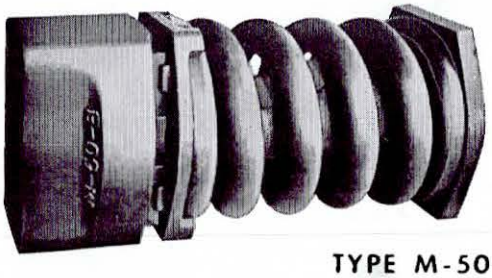
NATIONAL
KEEPS'EM ROLLING

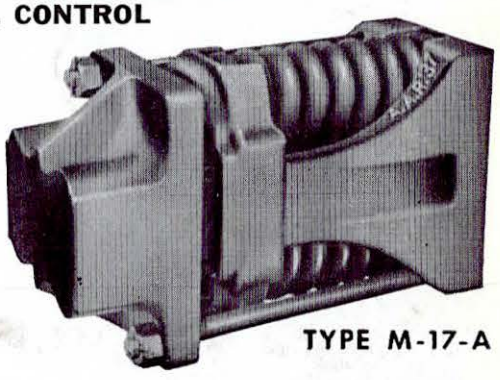


NATIONAL B-1 TRUCK WITH DUAL CONTROL

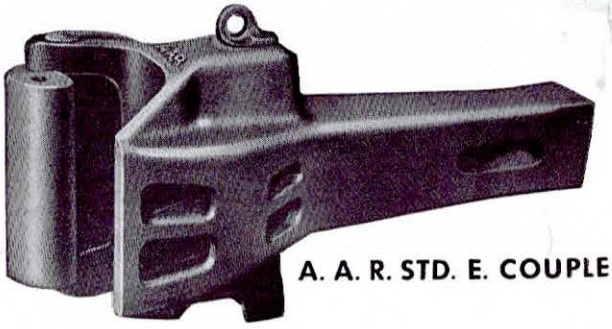


TYPE M-50-B

A.A.R. Approved Draft Gears



TYPE M-17-A



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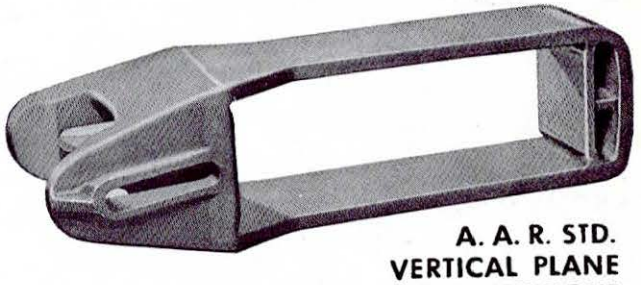

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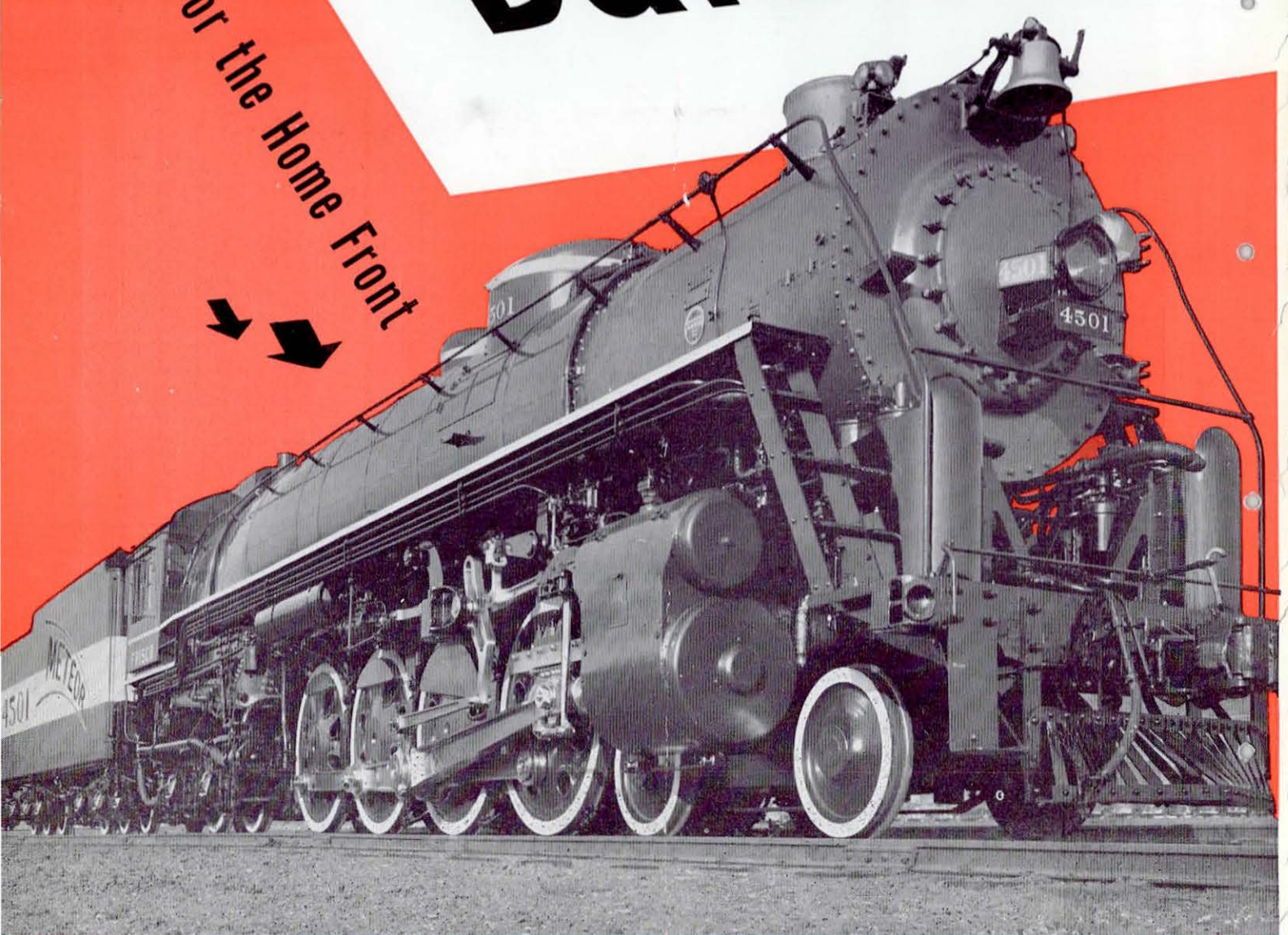
Published weekly by Simmons-Boardman Publishing Corporation, 1309 Noble Street, Philadelphia, Pa. Entered as second class matter, January 4, 1933, at the Post Office at Philadelphia, Pa., under the act of March 3, 1879. Subscription price $6.00 for one year U. S. and Canada. Single copies, 25 cents each. Vol. 114, No. 2.

These are Baldwins

for the Home Front



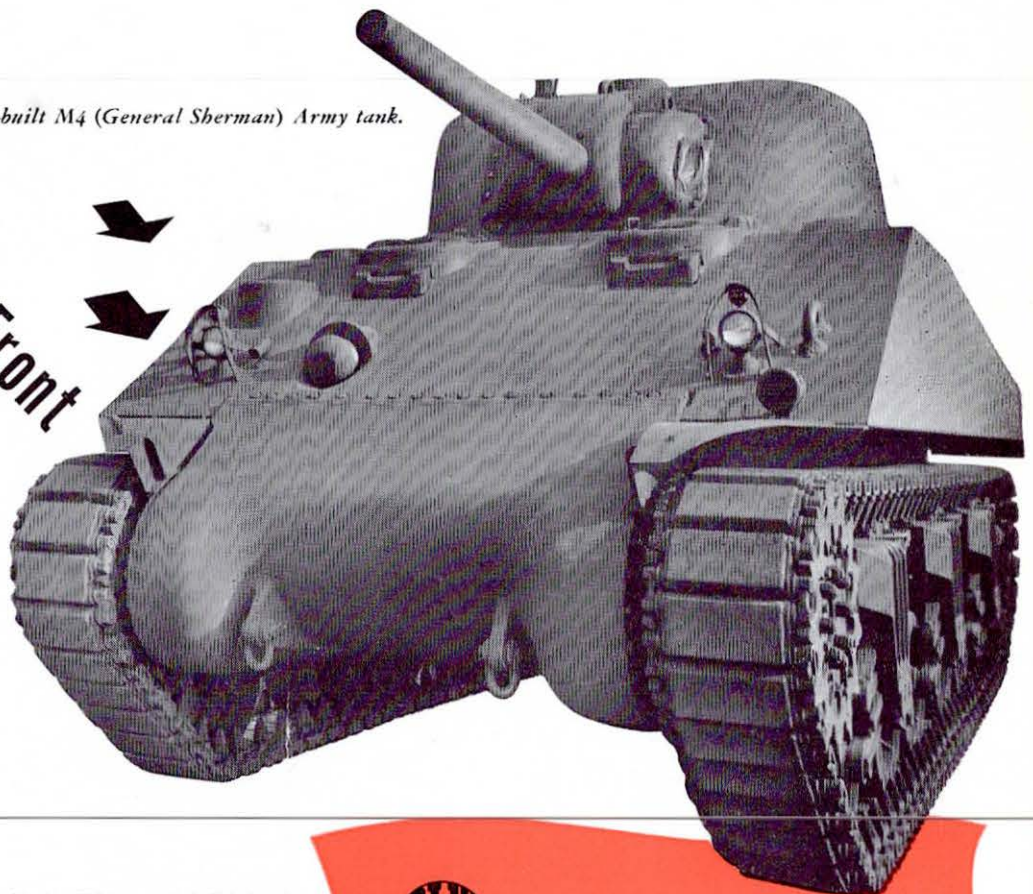
Modern 4-8-4 type locomotive for the St. Louis-San Francisco Railway.

Baldwin-built M4 Army tanks, of a type that played such a prominent part in driving the Axis forces out of Egypt, are but one of many items of war materiel produced by the Baldwin Group. Anti-aircraft gun tubes, coast defense gun mounts, propellers for naval vessels are some of the other products going to the fighting fronts.

And on the home front, Baldwin continues to supply the locomotives so vital to the job of hauling men and materials in record-breaking volume.

As in the First World War, Baldwin is serving as a bulwark for Victory; devoted to the dual task of producing ordnance materiel for the armed forces, and its regular products for equipping other vital war industries.

for the Fighting Front



Baldwin-built M4 (General Sherman) Army tank.

BALDWIN SERVES THE NATION

WHICH THE RAILROADS

HELPED TO BUILD

BLW THE BALDWIN GROUP

THE **BALDWIN** LOCOMOTIVE WORKS

Philadelphia

IF THERE is one thing in which the Faith of all Americans is fully justified it is in the ability of American Industry to produce. From the very beginning of the War Emergency we have all expected production on a truly American basis and this is in itself something to ponder. But the actual performance of American Industry with its dander up and its Patriotism aroused exceeds the wildest dreams of our greatest optimists and puts to shame the few who knew it couldn't be done and why.

We are proud of the engines and guns and machines our men have contributed to this miracle. We are proud to have taken an active part in an undertaking so inspiring. And when the war is over and won we shall be proud to participate in the inevitable sequel to the Production Miracle of 1942.

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GENERAL MACHINERY ORDNANCE CORPORATION

RHYTHM ON THE RAILS

When you were a kid, the most fun you had—next to waving at trainmen or noting down engine numbers—was to put one ear to the top of a shining "T" rail and listen to the clickety-click of a train that had just highballed through.

You felt the rhythm in that measured clicking. You knew there was rhythm in all railroading, from revolving drive wheels, to plunging pistons, to the beat in the stack of the "choo-choo" exhaust.

So it wasn't so strange that many of you grew up to be home-town musicians in drum corps, military bands, and orchestras. You usually started in drum corps because the beat of the drum echoes the beat of the stack; then you graduated to the brass and wind instruments of military bands.

Because I had played in such bands with railroad men, I've been thinking how Director W. E. Thomasson of the "Katy" band at Parsons, Kansas, taught us that railroading is naturally rhythmic—music is a mixture of rhythm and melody; and when folks play together it makes for harmony and patriotism.

Fred W. Sargent had the same idea when he sponsored military bands and band contests on his road—monthly band concerts in his shops and rousing band send-offs for soldiers during our other wars. For a long time, at Canton, Ohio, the railroad band did its musical bit when anything patriotic was going on.

Out at Wichita, Kansas, a circus "windjammer" named Ray Dewing, got himself married, quit the road, landed a job in the general shops and organized a railroad band that was a big part of Fourth of July and similar celebrations. Then there was that railroad band at Avis, Pennsylvania, that, during more than a quarter century played soldiers away and back again.

I wonder if Sam Shinkle is still alive. Sam played slide trombone, or "sliphorn," in the Rochelle Cornet Band with me. We went to Illinois National Guard encampments, before Sam worked up from freight brakeman to passenger conductor. He used to tell me about a railroad band on Minnesota's Mesabi Iron Range that had 40 members—and all good ones until several went into our other World War.

I was thinking what a lot of hot railroad brass bands there were on the main line between Omaha and the Coast when Carl R. Gray was in his prime. And so many good ones around Los Angeles that they annually appeared in the Pasadena Tournament of Roses and military parades.

Then up bobbed G. E. Donnatin, Superintendent of the Los Angeles Union Terminal, setting aside the terminal's south patio for service men and their friends, plus band music! "Did you ever see half a thousand sailors march out of a railroad station lustily singing to the accompaniment of an even more lusty band?" he demanded.

I'd like to—and so would you—like to see it at every railroad depot and terminal in America. Knowing the spiritual value of rhythm and harmony, I don't care whether the bands play "Onward Christian Soldiers," "The Caissons Go Rolling Along," or "Anchors Aweigh," we need such martial music in wartime. So let's play them into service—with good bands.

—The Trackwalker

AMERICAN LOCOMOTIVE • GENERAL ELECTRIC

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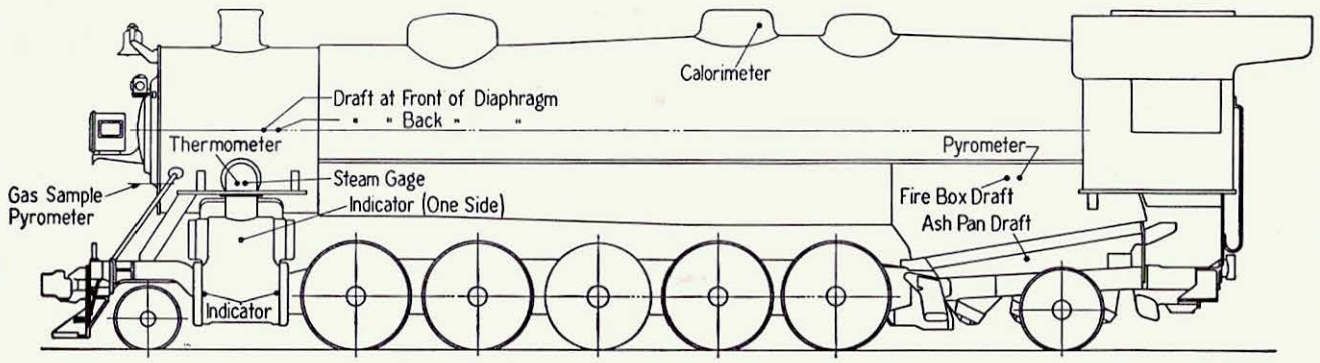
Now Ready

THE STEAM LOCOMOTIVE

By RALPH P. JOHNSON, M. E.

Chief Engineer, The Baldwin Locomotive Works



This is a complete treatise on the theory, operation and economics of the American steam locomotive. It is based upon current practice and recent research and material that has been tested out by the author and his co-workers. Comparisons are drawn with Diesel-electric and other types of motive power.

The author is a recognized authority on locomotive design, construction and testing. His experience in testing locomotives here and abroad with the aid of dynamometer cars is drawn upon for interesting observations on road testing methods.

To keep the subject matter as short as possible it has been stripped down to fundamentals, with just enough background included to indicate paths of development. The many tables have been checked against latest available data and the line drawings have been specially made for this book.

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FREE EXAMINATION COUPON

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Please send me a copy of R. P. Johnson's new book, THE STEAM LOCOMOTIVE, on 10 days' free examination. I will either remit the list price of $3.50 or return the book postpaid.

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R. A. 1-9-43

Table of Contents

Locomotive Classification—Locomotive Fuels—Combustion—Front Ends—Locomotive Cinders—Water for Boiler Use—Evaporation—Superheat—Tractive Force—Horsepower—Resistance—Tonnage Rating—Curves—Valve Gears and Valve Setting—Counterbalancing—Acceleration—Torque Diagrams—Locomotive Testing—Dynamometer Cars—High Speed Trains—Streamlined and Light Weight Trains—Motive Power for High Speed Service—Motive Power for Switching Service—Relation of Locomotive Operating Expense to Net Operating Income—Locomotive Repair Costs—Economic Life. Appendix A—Locomotive Testing Apparatus. Appendix B—Derivation of Economic Life Formula. Appendix C—Typical Locomotive Dimensions.

502 pages, 100 drawings and photographs, 70 tables, 6 x 9, cloth, $3.50

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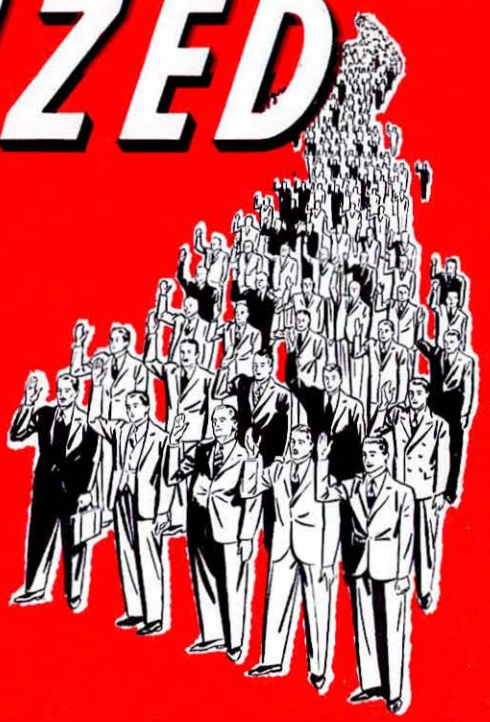


As members of Uncle Sam's transportation army, the Traffic Departments of the Pennsylvania Railroad pledge themselves to keep Victory traffic rolling!

By handling the multitudinous detail involved in troop movements with such dispatch that our boys go through in comfort and without a hitch . . .

By arranging the handling of enormous quantities of shipbuilding materials needed by our Navy and the Merchant Marine, so ships go down the ways ahead of time . . .

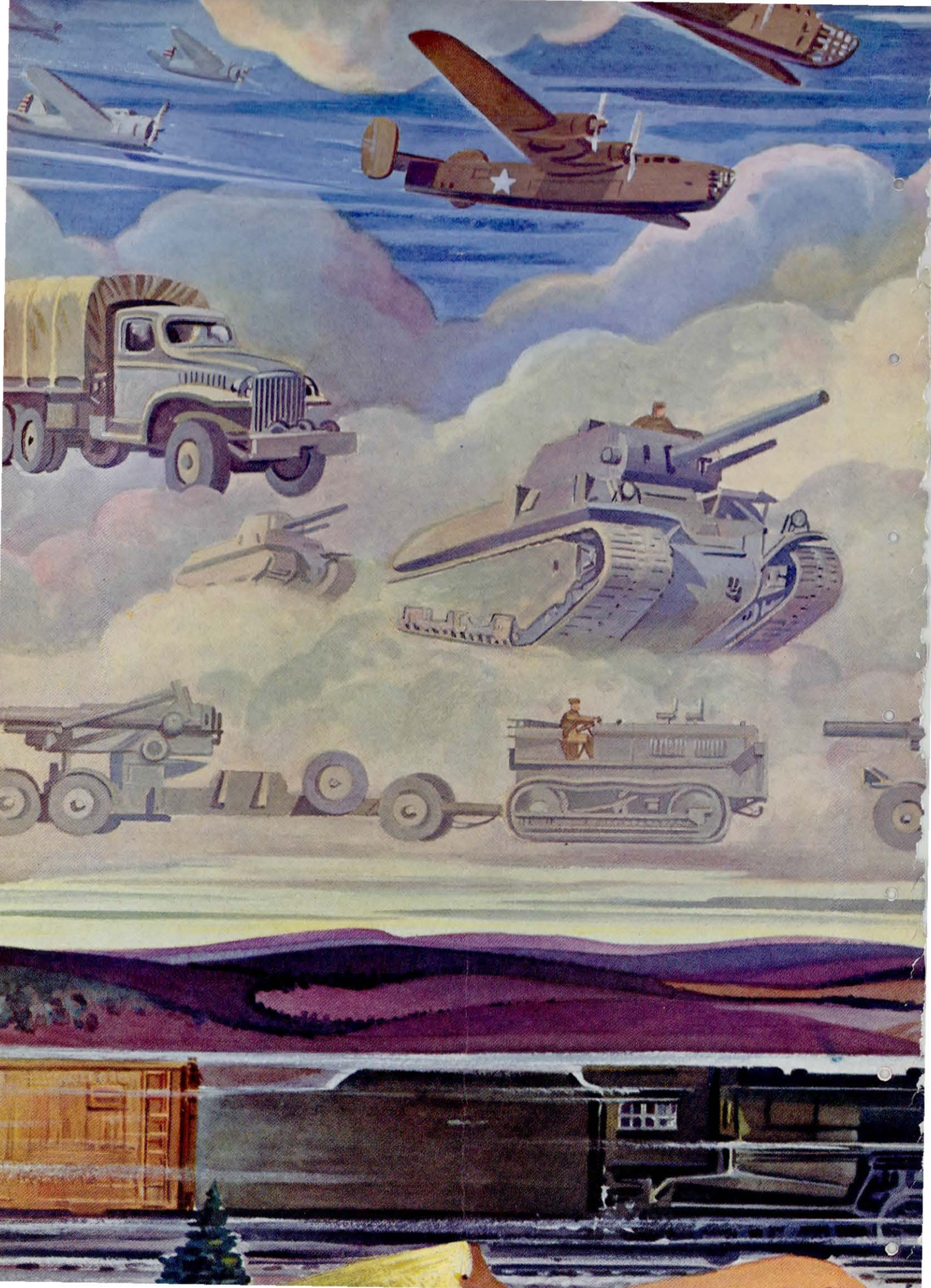
By helping industry hold its war pace . . . through quickly locating and reporting the whereabouts of critical materials in transit . . . distributing and interpreting rules, regulations and rates controlling movement of war shipments . . . helping to provide more cars . . . suggesting ways to load cars full, pack more carefully . . .

In fact, mobilization for us means only *one* thing: the application of our traffic experience and up-to-minute knowledge *solely and unreservedly* to the war effort. It makes no difference how big or how small the traffic job is, if it's directly related to winning the war—*count on us to help*. That's exactly what we're here for.

Pennsylvania Railroad

SERVING THE NATION

BUY UNITED STATES WAR BONDS AND STAMPS



~~1942~~

Another year has ended. Another twelve months of railroad operations go into the records. It is finished. Nothing more can be added, but 1942 will have a red-letter page in the records of outstanding achievements in the annals of railroad performance – a job exceedingly well done, a record surpassing all other years and against unbelievable odds.

We congratulate each and every employee of the railroads on their achievement and wish them continued success for the coming year. We are proud to be associated with this industry. The American Brake Shoe and Foundry Company.

The eyes of all America are upon the United States Treasury Roll of Honor appearing in the "Payroll Savings News." For copy write War Savings Staff, Treasury Department, Washington, D. C.

HOW TO "TOP THAT 10% BY NEW YEAR'S"

Out of the 13 labor-management conferences sponsored by the National Committee for Payroll Savings and conducted by the Treasury Department throughout the Nation has come this formula for reaching the 10% of gross payroll War Bond objective:

1. ***Decide to get 10%.***
   It has been the Treasury experience wherever management and labor have gotten together and decided the job could be done, the job was done.
2. ***Get a committee of labor and management to work out details for solicitation.***
   a. They, in turn, will appoint captain-leaders or chairmen who will be responsible for actual solicitation of no more than 10 workers.
   b. A card should be prepared for each and every worker with his name on it.
   c. An estimate should be made of the possible amount each worker can set aside so that an "over-all" of 10% is achieved. Some may not be able to set aside 10%, others can save more.
3. ***Set aside a date to start the drive.***
4. ***There should be little or no time between the announcement of the drive and the drive itself.***
   The drive should last not over 1 week.
5. The opening of the drive may be through a talk, a rally, or just a plain announcement in each department.
6. Schedule competition between departments; show progress charts daily.
7. Set as a goal the Treasury flag with a "T."

AS of today, more than 20,000 firms of all sizes have reached the "Honor Roll" goal of at least 10% of the gross payroll in War Bonds. This is a glorious testimony to the voluntary American way of facing emergencies.

But there is still more to be done. By January 1st, 1943, the Treasury hopes to raise participation from the present total of around 20,000,000 employees investing an average of 8% of earnings to over 30,000,000 investing an average of at least 10% of earnings in War Bonds.

You are urged to set your own sights accordingly and to do all in your power to start the new year on the Roll of Honor, to give War Bonds for bonuses, and to purchase up to the limit, both personally and as a company, of Series F and G Bonds. (Remember that the new limitation of purchases of F and G Bonds in any one calendar year has been increased from $50,000 to $100,000.)

TIME IS SHORT. Our country is counting on you to—

"TOP THAT 10% BY NEW YEAR'S"

Save with

War Savings Bonds

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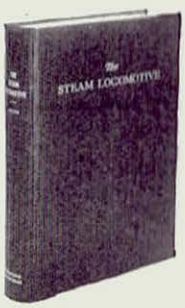
The Steam Locomotive

By R. P. JOHNSON

Chief Engineer, The Baldwin Locomotive Works



Theory, operation and economics of the steam locomotive, in the light of recent research and current practice. Comparisons are made with the Diesel locomotive. Just enough historical background is given to indicate paths of development. This new book is of interest to locomotive designers, mechanical engineers, superintendents of motive power, locomotive shop superintendents, and motive power officials.

502 pages, 100 illustrations, 70 tables, 6 x 9, cloth, $3.50

Railroad Electrification and the Electric Locomotive

By ARTHUR J. MANSON

Manager, Transportation Sales Department, Westinghouse Electric & Manufacturing Company

Written primarily for railway officials and operating men who desire a general knowledge of the design, construction, and operation of electric locomotives and of their application to different kinds of railroad service. Typical problems encountered in electrification of steam railroads are outlined, together with their solutions. Fundamental principles are stressed, and the book is illustrated with photographs, detail drawings, diagrams and charts.

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( ) Mastering Momentum
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( ) Diagram of 4-6-4 Locomotive
( ) Locomotive and Tender Defect Chart

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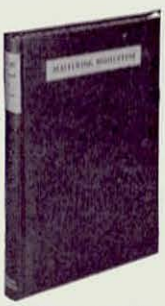
Mastering Momentum

By LEWIS K. SILLCOX

First Vice-President, The New York Air Brake Company



The author explains the features of high speed operation which have been responsible for such innovations in braking as electro-pneumatic combinations, automatic rail sanding, retardation control, and wheel slide detectors in passenger service; and delayed emergency, rapid quick service propagation and positive release of freight car brakes. The influence of heavy, sustained braking upon wheel and car truck design is discussed, together with an explanation of the responsibility of high braking temperatures upon the shelling and thermal cracking of steel wheels. Spring suspension systems, dynamic effects upon riding qualities, track stresses, and weight transfer tendencies are analyzed. Draft gear design and its relation to shock absorption and the running stability of freight and passenger cars are investigated.

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A fascinating human interest story of the early American and Canadian railroads and of the men who built and ran them. The author, an old railroad man, tells of the beginnings of the Erie, the Pennsylvania, the Baltimore and Ohio, the New York Central, the first Pacific railroad, the Santa Fe, the Rio Grande, the Canadian Pacific and other lines. It is illustrated with reproduction of wood cuts of early locomotives and railroad scenes.

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United States Regulations

For Steam and Other Than Steam Locomotives

Laws, rules and instructions for inspection and testing of steam locomotives and tenders, and other than steam locomotives, with interpretations, rulings and explanations on questions raised relative thereto, as prescribed by the Bureau of Locomotive Inspection. Includes safety appliance standards for locomotives as fixed by order of the I. C. C.

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Diagram of a 4-6-4 Hudson Type Passenger Locomotive

Shows 315 numbered parts, including all the latest appliances. Elevation scale drawings of locomotive and tender and four cross sections.

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- *Follow implicitly the Operator's Instruction Book.*
- *Have a complete inspection check made.*
- *Have track pins and bushings turned to increase track life.*
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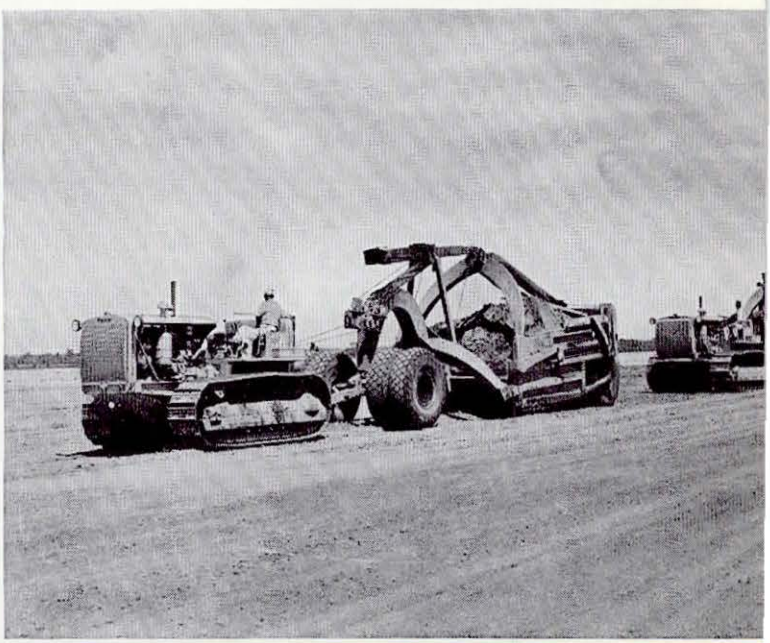
- *Have clutches relined.*
- *Have cylinder liners etched for added life.*



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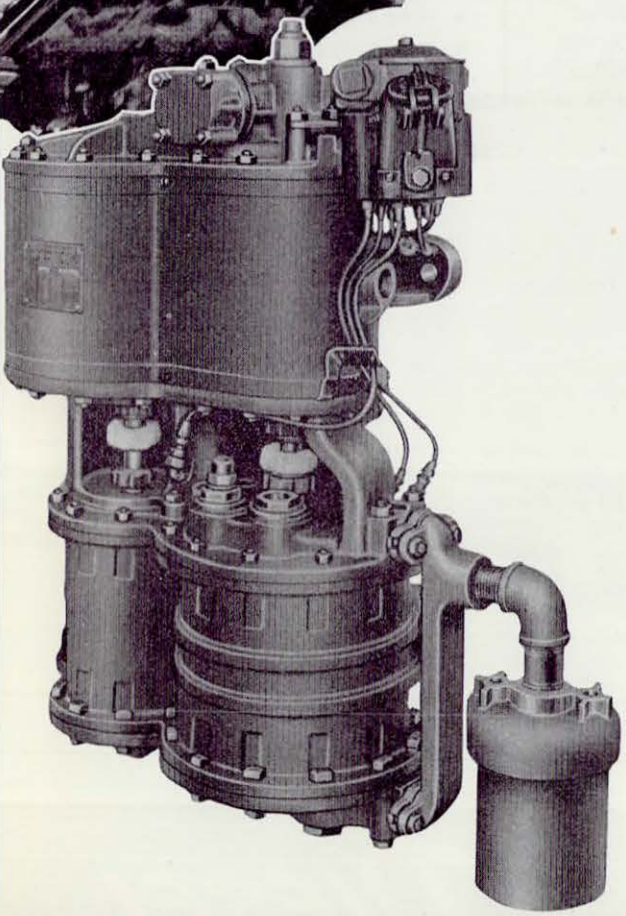

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Railway Age

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Vol. 114 January 9, 1943 No. 2

In This Issue

Page

Railroad Research—Its Problems, Profits and Potentialities ***156***

Extracts from an address by A. E. Perlman, Chief Engineer of the Denver & Rio Grande Western, before the New England Railroad Club, discussing the economic and technological aspects of railroad research.

Big Money in Land-Grant Discount ***161***

An article analyzing the exhibits submitted to the Transportation Board of Investigation and Research in connection with its study of public aids to transportation.

EDITORIALS

Railways Under Roosevelt and Before 153
Sabotage in California 154
"Muddling Through" vs. Advance Planning 154
Accidents Can Be Prevented 155
Basis of Employees' Suggestion Systems 155

GENERAL ARTICLES

Railroad Research—Its Problems, Profits and Potentialities, by A. E. Perlman 156
Air-Cooling Unit 160
Wood Rolling Door 160
Big Money in Land-Grant Discount 161
Materials Situation Worries I. C. C. 164

COMMUNICATIONS **168**

RAILROADS-IN-WAR NEWS **169**

GENERAL NEWS **175**

REVENUES AND EXPENSES OF RAILWAYS **190**

The Railway Age is indexed by the Industrial Arts Index and also by the Engineering Index Service

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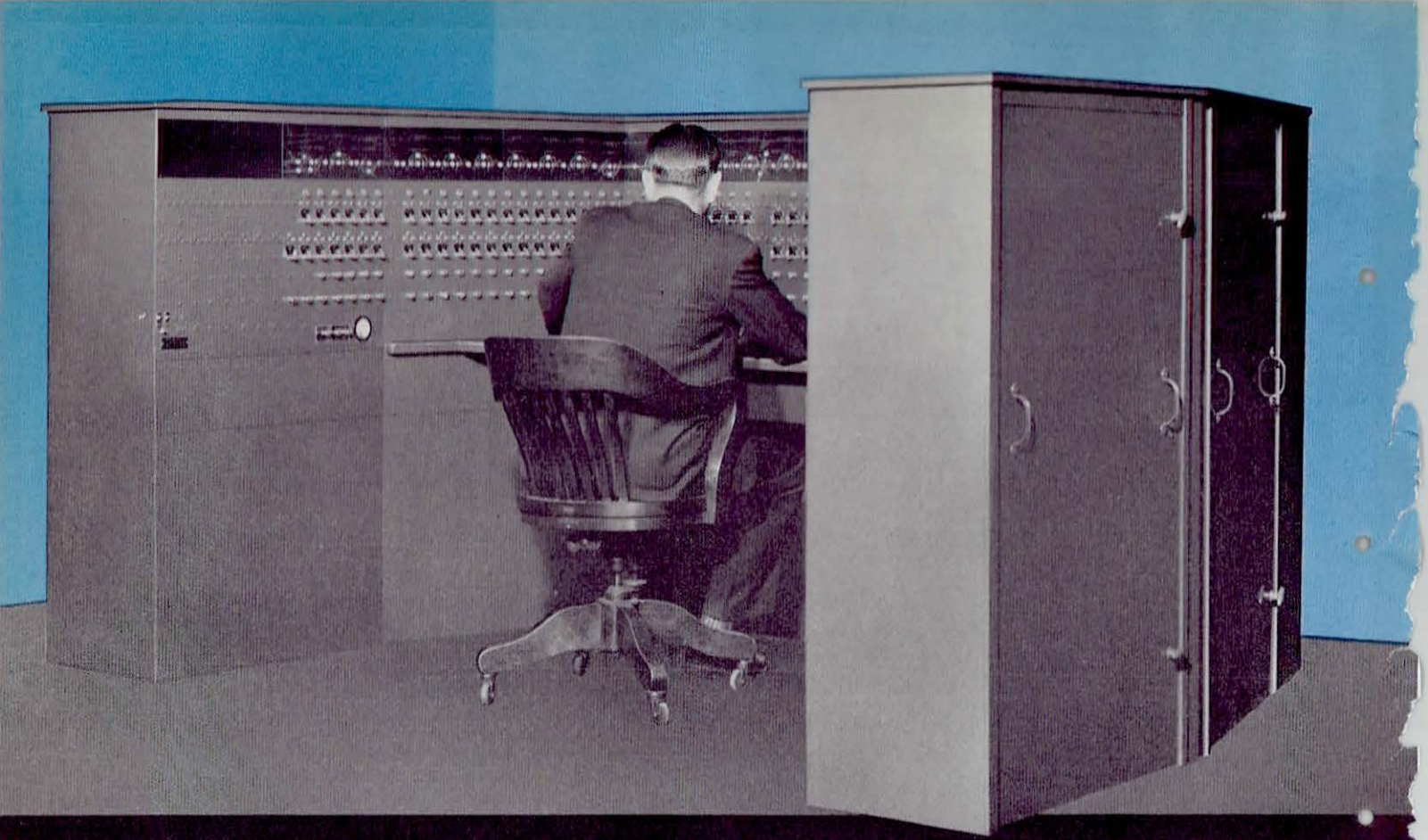
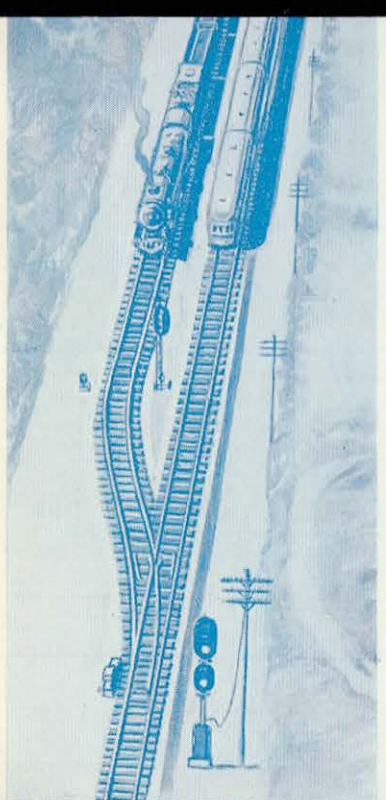


C.T.C. solves track capacity problem on the Seaboard!



A SIGNIFICANT example of the ability of "Union" Centralized Traffic Control to greatly increase track capacity was fully described in the June 20, 1942 issue of *Railway Age*. Train operation by signal indication; judicious application of power and spring switch mechanisms; a control system which provides for minute-by-minute receipt of train progress information and the immediate dispatch of signal and switch controls, produce in combination a facility which has made possible the movement of increased wartime traffic without delays or congestion. An installation of this kind can be planned and constructed in a relatively short period of time and with effective and justifiable use of scarce materials. • Centralized Traffic Control systems have demonstrated their great value under the present emergency. Many railroad signal and operating officers have found C.T.C. to be the only practicable answer to the varied problems created by the exigencies of war. We shall be glad to assist in making factual analyses of the benefits to be derived through its use in specific territories.

2091

UNION SWITCH & SIGNAL COMPANY

SWISSVALE, PA.

NEW YORK CHICAGO ST. LOUIS SAN FRANCISCO

The Week at a Glance

"PLANNED IT THAT WAY"?: In 10 years with Mr. Roosevelt at the head of the nation the railroads earned 2.56 per cent on their investment, as compared to 3.85 per cent in the decade before he took over. Despite this record, Mr. Roosevelt's subordinates, Messrs. Byrnes and Henderson, are now demanding a *decrease* in railroad rates. Their excuse is that present rates are "inflationary." The degree of credibility of which that contention is worthy is indicated by the fact that the average ton of freight paid 9.6 mills for a mile's ride in the Roosevelt decade, as against 10.8 mills before his advent. A passenger paid 2.79 cents for riding a mile in the 10 years before Mr. Roosevelt's arrival, and 1.86 cents in the decade since the nation has had the benefit of his direction. The leading editorial herein gives further comparisons of the pre-and-post-Roosevelt condition of the railroads.

●

ONE WHO KNOWS RESEARCH: Thoughtful counsel on railroad research—by a railroader of extended practical experience and painstaking study in such activity—is the subject matter of an article immediately following the editorial comment pages herein. The author is A. E. Perlman, chief engineer of the D. & R. G. W.—a road in the vanguard of research activity, economic as well as technological. Mr. Perlman, as was reported in last week's *Railway Age*, page 23, is a leading member, also, of the A. A. R. committee which, under the general chairmanship of Judge R. V. Fletcher, is exploring the whole field wherein scientific inquiry may be profitably applied in preparing for the future.

●

ECONOMICS IS CONTROLLING: Research which doesn't ring the cash register is so much waste—so Mr. Perlman begins his paper with a brief report on the extensive economic studies his company is pursuing. He then suggests an approach to technological inquiry which he divides into five categories, viz., (1) "basic," (2) applied or physical, (3) specification or standardization, (4) appliance testing, (5) techno-economic. He suggests several specific projects under each class of research—as, for example, powder metallurgy under (1), drafting of locomotives to minimize cinder cutting for (2) and so on. He reveals in some detail the technological inquiry being carried on by the D. & R. G. W. and favors similar and more comprehensive undertakings by the carriers jointly, acting through the A. A. R.

●

OIL CRISIS: Intensive measures to increase railroad movement of petroleum to the Eastern seaboard have not yet borne fruit in the statistics—but a survey of the situation in the news pages herein indicates that they should soon do so. So far the weather has been just enough worse to counteract most of the more attentive handling the tank cars are getting. But these steps ought to push ahead of the winter soon. For instance, box cars are being pressed into the service, and 85 per cent of the traffic is now moving in symbol trains, compared to only 65 per cent a few weeks ago.

●

EX PARTE 148 REOPENED: Whether or not the I. C. C. will accept Judge Byrnes' and Leon Henderson's claim that present railroad rates are "inflationary," it is at least going to give these officials a costly and time-consuming opportunity to prove their case. A hearing has been ordered, beginning February 2—and a host of highly-skilled manpower will have to divert its attention from war-connected work to the "make-work" task of imparting to Judge Byrnes and his academic assistants some elementary economic information about the railroads. Running a railroad, one might think, would be work enough these days—without complicating it further by requiring the carriers every few months to fight for their economic existence before rate and wage tribunals. But the OPA and the labor leaders have no other duties except prosecuting people. Anyhow, the Attorney General has postponed his attack on the recognized machinery of rate-making, which eases up prospective unproductive litigation to some extent.

●

EASTMAN VS. CROSS-HAULS: Shippers seem inclined to believe that the transportation situation has eased up and their curtailment of cross-hauling has been "disappointing." So ODT Director Eastman observed in a speech at Chicago this week, reported herein. The fact is, Mr. Eastman said, that the manpower shortage is going to hit transportation hard—and all projects for relief, such as ending unnecessary cross-hauls, are imperatively necessary. He went on to say that rumored restrictions on long truck hauls have aroused unwarranted alarm. ODT won't prohibit these, where essential to the war program. However, there are cases where efficiency would be aided by shifting long-haul traffic to railroads from trucks.

●

BARRIGER & TURNEY QUIT: Two well-known assistants to Mr. Eastman in ODT have left the organization—John Turney to resume his law practice and John Barriger to become vice-president of Union Stock Yards, Chicago. Mr. Barriger is succeeded as federal manager of the T. P. & W. by Holly Stover, who has been assistant to Director Boatner of ODT's Division of Railway Transport.

●

RR MEDIATORS FEEL FINE: The Railway Labor Act is a rare treasure indeed, in the opinion of the National Mediation Board. This estimable statute is "serving effectively the nation at war" just as it has served "for more than 16 years as an effective instrument for the orderly settlement of railway labor disputes"—so the mediators proclaim in their annual report reviewed in the news pages herein. Moreover, "it is the most advanced piece of legislation in the nation today for the peaceful settlement of industrial disputes."

THEY HEEDED ODT: Passenger travel over the holiday was ahead of a year ago, but it was less than over the Labor Day week-end. The volume attained came from heavy furlough traffic; civilian movement was *below normal and less than was expected.* In other words, the patriotic American people heeded the widely-publicized plea of ODT Director Eastman that they limit their holiday visiting and give the service boys a chance. It must be very disappointing to some of the apprentice *fuehrers* in other Washington agencies to see the people *voluntarily* co-operate with the transportation set-up, which itself is giving an object lesson of how much more effective co-operation is than coercion.

●

6,318 ADJUSTMENT CASES: The Mediation Board reveals that the Adjustment Board got 6,318 cases during the fiscal year and that 6,033 of them were in the First Division (train and engine service). A curious observer might wonder at this division's doubtful distinction and would be led to suspect either (1) that train and engine service employees are much more shabbily treated than other employees; or (2) that they are, by nature, more litigious, than other employees; or (3) that the rules governing their work are unduly complex and promotive of misunderstanding; or, finally, (4) that there is something about the way First Division cases are handled which *promotes litigation rather than minimizes it.* Anybody on a railroad knows that conjectures (1) and (2) cannot be true.

●

AIR TRANSPORT'S FUTURE: Joe Martin, Republican boss of the House, in stating G. O. P. objectives, this week remarked that: "Aviation will be an important factor in winning the war. It will be an important factor in maintaining the future peace of the world. It looms large in our future national prosperity." He could have made the same observations about the railroads, but it so happens that he didn't. He then went on to say that the G. O. P. will insist on establishing a House committee on aviation to deal with its problems and *development.* This is cited as another of many straws in the wind, indicating that those who estimate the competitive strength of air transport only by examining its economics are likely to be mistaken.

●

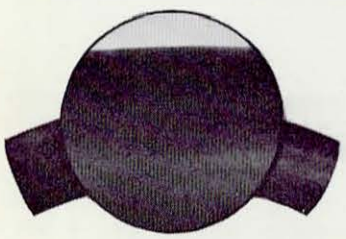
UNCLE SAM'S BIG DISCOUNT: The railroads are giving the government a land-grant deduction of 20 million dollars a month in its transportation bills, according to a survey, reviewed herein, by the Board of Investigation and Research. It is noteworthy that most of the saving to Uncle Sam comes, not from compulsory discounts by the land-grant roads, but from competing lines which meet the reduced rates without having received the largess which is used to justify them. The Board also reveals some significant figures on the cost to the taxpayers of inland waterways—which suggest how little dependence can be put in economic studies alone, in forecasting probable future competition.

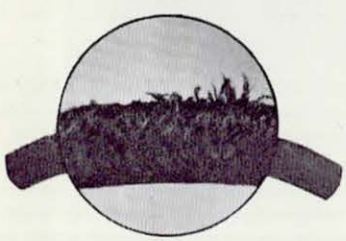
NOTES ON SYNTHETIC COVERINGS for WIRES AND CABLES

Okoprene, made from well-known neoprene, is now used as a protective, flame-resistant covering for insulated wires and cables in the railway signal field.

The neoprene jacket on Okonite-Okoprene insulated wire and cable provides heat and oil resistance, long life and assures non-inflammability. The importance of this latter feature was demonstrated in several recent disastrous fires.

As a result of the introduction of Okonite-Okoprene to the railroad field, the life of vital rubber is prolonged because this new cable eliminates the deterioration of rubber caused by oxidation when exposed to air. Okonite-





Relative deterioration after six years of exposure

• *Okoprene sheath still smooth and unchanged by elements.*

• *Saturated braid with compound eroded and braid destroyed.*

Okoprene is made with a layer or jacket of neoprene compound over the Okonite rubber insulation instead of the former saturated braid or impregnated tape covering. The Okoprene covering permanently seals oxygen and light away from the rubber insulation and also provides many other advantages, such as:

The Okonite method of strip insulation which assures uniform thickness of both the Okonite insulation and the Okoprene jacket.

Lasting protection. There are no braids to rot or fray, or saturants to melt, drip, or flake off. Instead, the Okoprene sheath provides a bonded, light-proof protective covering within which the Okonite insulation is permanently sealed.

Resistance to destructive forces. The Okoprene sheath resists moisture, oils, chemicals, heat, sunlight, flame, oxidation in air and, in addition, is tough, smooth, stable and flexible, like the Okonite insulation it protects.

Ease of installation. The smooth, snag-proof Okoprene

• *Manhole location where multi-conductor Okoprene sheathed signal cables leave a tower and enter underground ducts.*

• *Okoprene wiring at an outlying instrument case in an interlocking.*

covering makes it easy to pull into conduit. High abrasion resistance and high tensile strength prevent injury. Flexibility at very low temperature is an added feature.

The non-conducting nature of Okoprene eliminates electrolysis.

Okonite-Okoprene wires are more durable and longer lasting than the best braided cables and they cost no more.

Okonite-Okoprene wires and cables have passed the experimental stage. Following extended laboratory tests, such wires and cables have been under observation in severest operating conditions for nearly ten years.

Okonite-Okoprene is applicable wherever braided wire is used and also in the tough spots where conventional metallic and non-metallic coverings have failed to give required service.

Ask for Bulletin OK-2012 for detailed description.

• *This familiar sight, the cracking or "checking" of exposed rubber insulation on terminal wires, is missing where Okoprene is used.*

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Insulated Wires and Cables

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RAILWAY AGE

Railways Under Roosevelt and Before

In view of the fact that Economic Dictator Byrnes and Price Dictator Henderson have joined in a demand upon the Interstate Commerce Commission for a large reduction of railway rates, the record of net earnings that the railways have made under the Roosevelt administration is highly pertinent and important.

The Roosevelt administration has now been in power almost ten years. It began adopting its "recovery" policies almost ten years ago. Messrs. Byrnes and Henderson represent it in very important capacities. They claim that present rates have an inflationary tendency. They claim, also, that railway net operating income is too large.

Net operating income is the amount of net earnings from operation the railways have left after paying their taxes. It is their return upon investment. Statistics given in the accompanying table show how much taxes they paid and how much net operating income (after taxes) they earned in the ten years preceding the Roosevelt admin-

Year	Taxes (millions)	Net Railway Operating Income (millions)	Rate of Return	Year	Taxes (millions)	Net Railway Operating Income (millions)	Rate of Return
1923	$332	$ 962	4.33%	1933	$250	$ 474	1.82%
1924	340	974	4.23	1934	240	463	1.78
1925	359	1,121	4.74	1935	237	500	1.93
1926	389	1,213	4.96	1936	320	667	2.57
1927	376	1,068	4.28	1937	326	590	2.27
1928	389	1,173	4.61	1938	341	373	1.43
1929	397	1,252	4.81	1939	356	589	2.25
1930	349	869	3.28	1940	396	682	2.59
1931	304	526	1.99	1941	547	998	3.75
1932	275	326	1.24	1942*	1,153	1,390	5.23
Average ..	351	948	3.85	Average ..	417	673	2.56

* Year ended November 30, 1942.

istration and in the last ten years under the Roosevelt administration. Annual taxes in the ten years preceding the Roosevelt administration averaged $351 million; in ten years under the Roosevelt administration, $417 million. Net operating income in the ten years preceding the Roosevelt administration (including three years of the depression) averaged $948 million, an average annual return of 3.85 per cent. Net operating income in ten years under the Roosevelt administration (including the unprecedentedly large traffic years 1941 and 1942) averaged only $673 million, or but 2.56 per cent. In *amount*, net operating income has been only 70 per cent as large, in percentage of return on investment only two-thirds as large, during the Roosevelt decade as during the preceding decade.

Net operating income in 1942 stands out very prominently, but not as prominently as taxes. Compared with 1929, the most prosperous previous railway year, net operating income increased but $138 million, or 11 per cent; while taxes increased $956 million, or almost 200 per cent. And was net operating income in 1942 derived from "inflationary" rates? Average revenue per ton-mile in the decade ending with 1932 was 10.8 mills; in the decade ending with 1942 was 9.6 mills; and in 1942 was 9.28 mills. Average revenue per passenger-mile in the decade ending with 1932 was 2.79 cents; in the decade ending with 1942 was 1.86 cents; and in 1942 was 1.91 cents.

The small net operating income of the last decade shows why, in order to maintain their wartime service, the railways imperatively need the relatively large net operating income currently being earned. Present relatively low revenue per ton-mile and per passenger-mile demolish the claim that existing rates are inflationary.

Efficiency FOR VICTORY

Sabotage in California

"Make-work" rules that prohibit the effective use of manpower are by no means confined to California, but the situation there is so critical and the effect on vitally needed war transportation so serious that attention naturally centers upon it as the sore spot in the country. Delays to wartime freight and occasional transportation breakdowns are being caused by three things—the California state "full"-crew law; conditions imposed upon the managements of individual railways by the unions; and the interpretations of rules by the National Railroad Adjustment Board.

In California as elsewhere the large majority of railway employees are working as they have never worked before. Overtime is piling up at a staggering rate, and, while the employees are getting paid for it and paid well, nevertheless, they are loyally pitching in to get the job done. On the other hand, they are seriously jeopardizing the war effort by stubbornly refusing to yield an inch on their "rights," even though they know as well as railway officers that, by crippling transportation, they jeopardize the war effort.

At a recent war effort meeting of the California Chamber of Commerce, these practices were unanimously condemned by a neutral body on the basis of facts which it dug up—facts that are an appalling condemnation of union tactics under present emergency conditions.

On one railway, the unions were able in 1903—40 years ago—to force adoption of a rule as a "safety measure" that no train of more than 50 cars can be handled down a certain 2.2 per cent grade. Under present operating conditions, any claim that such a precaution is necessary for safety is nonsensical; but the rule is still in force and its pernicious effects are being felt daily. During one recent 30-day check made by an independent agency, it was found that 40 trains were delayed while 421 cars were cut off to meet the 50-car rule. All these trains carried important wartime freight, and they were not only delayed in doing this unnecessary switching, but the 421 cars were delayed even more while waiting until they could be built up into additional trains and until crews were available to operate these trains.

California's full-crew laws require three brakemen for 50 cars, four for 75 cars and an additional brakeman for each 25 cars beyond 75 for tracks with grades of less than one per cent. On steeper grades the requirements are progressively more severe, until, on a 2 per cent grade, the trains must literally be cluttered with brakemen to a point where the caboose must become uncomfortably crowded. As a result, in times of heavy traffic such as now prevails, there are not enough brakemen to go around, and trains are badly delayed waiting for brakemen. A 30-day check at one intermediate main line point revealed that at this point alone 33 trains of important freight were delayed a total of 31 hr. 45 min. for no other purpose than to wait until extra brakemen were available—men who were not needed! The cumulative effect of such delays at numerous terminals in California is staggering.

"Muddling Through" vs. Advance Planning

"Muddling through" is a term that was coined to describe a certain technique of international diplomacy. It refers to a policy of action in which dependence is placed on coping with individual emergencies as they arise, in preference to having available a planned course of action based on the conditions that are expected to exist. All this may seem to have little bearing on the problem of maintaining railroad fixed properties during wartime, but there is a connection to this extent—maintenance departments can either adopt a policy of "muddling through," with its obvious disadvantages, or they can follow the wiser course of planning in advance a campaign of action calculated to produce the best possible results under the conditions of scarcity in the things that they use—materials, manpower and equipment—that prevail today.

Maintenance departments have just passed through a year of growing shortages in all these things. They are about to enter a new working season in which shortages will be even more acute, with every indication that the manpower problem will be especially critical. In fact, the implications are so serious that some roads are considering the introduction of certain temporary changes in their basic policies, methods and practices, with a view to stretching available supplies of materials, manpower and equipment sufficiently to cover the essential needs of their properties. Bridge departments have been particularly active in this direction. Perhaps the track phase of the problem is somewhat more complicated, but no less urgent. Prerequisites to achieving a successful solution of this part of the problem are a willingness to face the facts and a determination to make sweeping changes if they are found necessary.

For instance, a scrutiny of present practices may show that some types of work can be curtailed temporarily, or even eliminated, in order to permit available forces to be concentrated on those tasks that are more closely identified with the safety of the track. Again, it is possible that some roads may find it desirable to introduce certain changes in the organization of their track forces to permit them to function to the best advantage under the difficult conditions that will prevail during the coming working season.

In any event, the situation calls for a careful study on each railroad of its individual problems and requirements, which should be undertaken promptly to the end that any measures decided on can be placed in effect at the outset of the working season. Too much is at stake to trust in a policy of "muddling through,"

that is, to hope that present practices and methods will be adequate to cope with the situation. It is true that the most skillful planning cannot anticipate all difficulties, but at least it can set up a course of procedure for use as a guide in coping with them.

Accidents Can Be Prevented

Because 10 per cent of all railway accidents are due to unsafe physical conditions and 88 per cent are the result of unsafe acts of persons, it is apparent that many accidents can be prevented. Even though the number that can be prevented may be less than 50 per cent, which some contend is possible, any prevention during the coming months is a contribution to our war efforts.

Since 1923 the railroads have demonstrated a remarkable ability to prevent accidents. Their performance is demonstrated by the fact that in 1940 the number of employees killed per million man-hours was 0.21, or only slightly more than half the ratio of 0.399 in 1923, while the number of employees injured per million man-hours was only 7.05, as contrasted with 31.29 in 1923.

In view of this record, conditions which increase the chances for accidents should not be considered an insurmountable problem.

The prevention of accidents involves activities in two directions, the elimination of unsafe physical conditions and the curtailment of unsafe acts of persons. The accident statistics compiled by the Interstate Commerce Commission show clearly the importance of each. Of the 9,401 train accidents that occurred in 1941, 3,631, or 38.6 per cent, were attributed to unsafe physical conditions—that is, defects in or failure of equipment and defects in or improper maintenance of way and structures; and 4,161, or 44.3 per cent, were due to unsafe acts of persons. In the remainder of the accidents, train-service and non-train, the two causes are present but those due to unsafe acts of persons are more prominent and those due to unsafe physical conditions are less so.

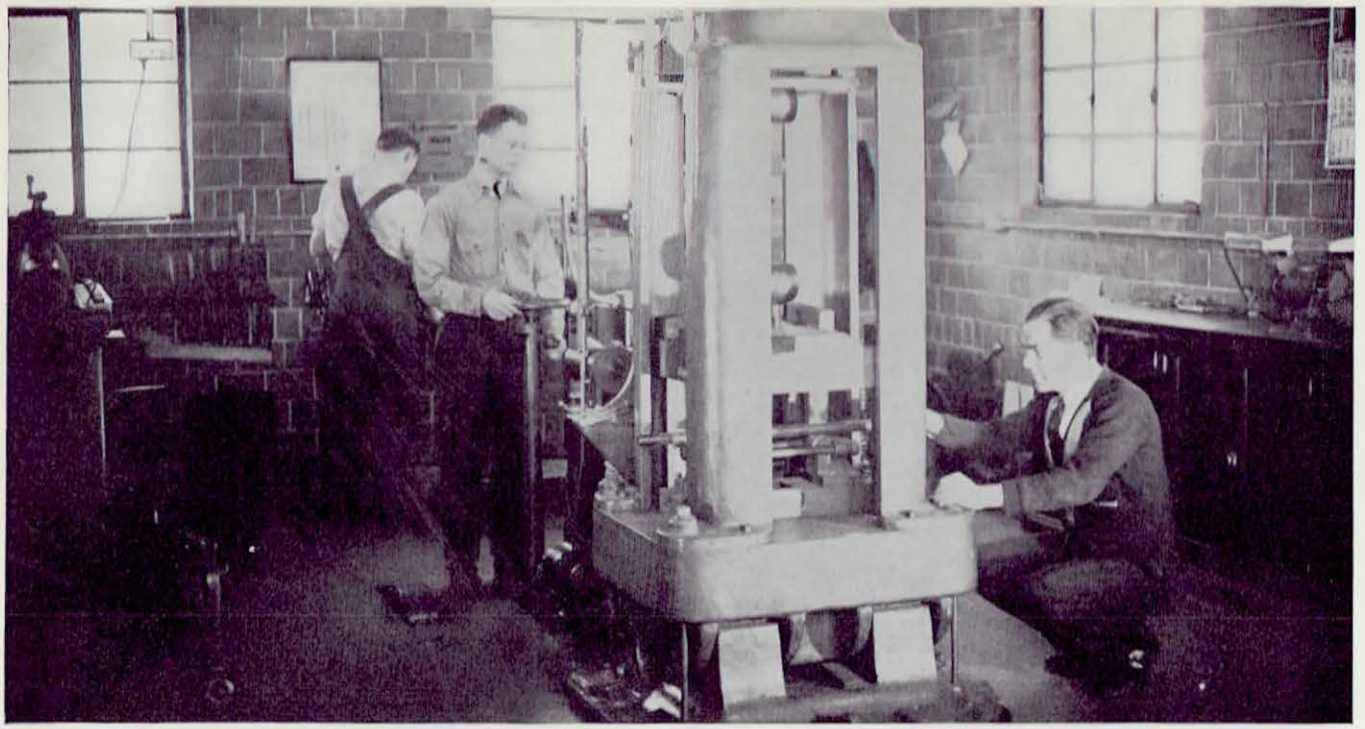
The elimination of unsafe physical conditions requires the supplying of proper materials, equipment and facilities and keeping them in a safe condition. This implies proper design and the discarding of obsolete and worn-out machines, tools, parts and methods.

A reduction in accidents due to unsafe acts of persons can only be brought about by a well-organized program because the human element, involving fixed habits and mental attitude, is concerned. Unsafe acts of persons range from "not looking where one is going" to "suicide," with "falling asleep on the job" and "failure to follow instructions" occurring frequently. One method of guarding against accidents is the hiring of only mentally and physically healthy and alert workers and weeding out those who fail to qualify, although, with a scarcity of labor, this method cannot be employed to any extent during a war. The most effective method under any circumstances is the training of employees so thoroughly that their everyday actions become so automatic that they replace bad habits. At the same time supervision, as an adjunct to training to insure a continuation of proper performance, is essential.

Basis of Employees' Suggestion Systems

During the first eighteen months of operation of its suggestion system, employees of the Pullman Company made 42,000 suggestions for improvements to equipment, operation and practices. About 11 per cent of these were accepted and 2,600 individuals received awards amounting to $53,000. The Illinois Central has had its system in operation for a longer time. In the first three years it received 59,120 suggestions. Slightly more than 11 per cent, or 6,542 of these were adopted and cash awards were made totaling $67,299. While these movements antedated the labor-management plan recommended to industry early this year by Donald Nelson of the War Production Board, they have much in common with it; indeed, the Illinois Central employees' suggestion system now forms the nucleus of the activities of a labor-management committee, which was recently set up on that road as a result of Donald Nelson's suggestion. It is known as the Employees' War Production Drive General Suggestions Committee.

Movements of this sort, if they are to be successful, must be organized with great care and must be based on certain clean-cut and definite understandings. This is true, whether it relates to the now almost classic examples of labor union-management co-operation, which have operated so many years on the Baltimore & Ohio and the Canadian National, or to the remarkable and spectacular success of the labor-management committee in the Symington-Gould plant (*Railway Age*, July 11, 1942, page 49). C. J. Symington insists that the first requirement is that it be dominated by a spirit of sincerity and mutual confidence. The late Daniel Willard summed it up by saying that the participants must be "fair" to each other. E. S. Taylor, director of the suggestion system of the Pullman Company and president of the recently formed National Association of Suggestion Systems, expresses it in this way: "Wholehearted backing of top management, complete co-operation of supervisors and employees, and the full time supervision of an executive who is thoroughly grounded in the company's operations, are 'musts' for any successful system." With these "musts" in mind, the problem then becomes one of utilizing those detail practices that have been found to be most fruitful by companies that have had an extended experience in developing such systems.



Testing on the 200,000-Lb. Testing Unit in the D. & R. G. W. Laboratory at Denver, Colo.

Railroad Research—Its Problems, Profits and Potentialities*

Economic and technological aspects discussed and defined—Projects suggested for investigation and study—Methods and experiences of D. & R.G.W. cited

By A. E. Perlman

Chief Engineer, Denver & Rio Grande Western

WEBSTER defines research as "diligent inquiry or examination in seeking facts or principles." All railroads are engaged in research to some degree, but rapidly changing conditions caused by the war have made us more conscious of the need for a group within our own organization, with the time and tools at hand to turn its vision outward as well as inward. The line officer has no time to think about the future; he is occupied with ever-increasing detail and problems caused by the huge increase in traffic that has occurred and a diminishing supply of men and materials to do his job.

Since any comprehensive program of technological research must be guided by economic considerations, I should like to outline briefly some of the economic inquiries which have been instituted on the Denver & Rio Grande Western. Through the Research and Statistical bureau, the industrial engineer, the director of agriculture, and other staff officers, careful studies have been made of marginal branch-line operations with a view to determining the possibilities of increasing their revenues, of reducing unprofitable services, or of abandoning them altogether. There has also been undertaken a comprehensive study of truck and bus transportation, this study being desirable in view of the fact that the railroad now owns a network of truck and bus lines operating in Colorado, Utah and New Mexico.

The Research and Statistical bureau—made up of R. B. Eagleston, formerly of Northwestern university, Dr. M. B. Davies, of the University of Wisconsin, and two staff assistants—is constantly studying problems of sales and service such as the causes of revenue losses; the nature and significance of shifts in industrial activity; the proportion of potential traffic demand supplied by the company; freight rate analyses; the effectiveness of the railroad's sales effort; and the long-term outlook for the railroad, its competitors, and the industries which it serves. In the present emergency, the emphasis of this group, along with other departments of the railroad, has naturally been shifted to the problem of finding ways

* Address presented before the New England Railroad Club at Boston, Mass., on November 10, 1942.

and means of increasing the company's traffic-carrying capacity. This involves the forecasting of traffic and equipment needs as accurately as rapidly-changing conditions will permit, and an evaluation of the extent to which changes in schedules, train speeds and train loads may affect the company's transportation output as measured by ton-miles and passenger miles.

Five Divisions of Technological Research

Turning to technological research, we might sub-divide this phase of the activity into five classifications as follows: (1) Fundamental or basic research; (2) applied or physical research; (3) specification or standardization research; (4) appliance-testing research; and (5) techno-economic research. Fundamental or basic research may be explained as the study of the unknown, such as the application of research in the development of designs and processes, some of which may never before have been used in railroad service; and the obtaining of specific facts or knowledge—metallurgical, chemical and physical—regarding materials or appliances so that they may meet the service conditions required by the railroad industry.

Suggested fields of investigation under this heading are discussed below.

(1) Powder metallurgy. For decades the railroads have said of their bearing metals, "if it can't be cast, forget it." Yet there are conceivably many combinations of metals which would make highly satisfactory bearings if they could be manufactured. Recent years have shown us that otherwise impossible combinations can be sintered together from powders to make objects having closely controlled strength, porosity, composition and shape. Application of this method to railroad usage offers great possibilities.

(2) Firebox and boiler steels. At one time, when a boiler or firebox developed cracks, the water was immediately blamed, whereas in most cases the steel itself was at fault. In such cases, the best water treatment obtainable would be of little avail. We realize this fact now, and believe we are on the way to the development of a more serviceable steel. Nevertheless, there is still a great amount of work which can be done in developing a steel which will not corrugate, fire crack, or strain age. When this is done, firebox replacements will be greatly reduced.

A Section of the Water Testing Laboratory of the D. & R. G. W. at Denver, Colo.

(3) Decarburization. We all know that strong steels are used in places where mild steel is not strong enough. Yet these higher carbon steels often have a "skin" of mild steel on them, the reason being that the carbon is burned out at the surfaces during the manufacturing process. Since in most applications this surface skin is subjected to the highest stresses, incipient cracks are formed which progress into fatigue failures. The extra strength we pay for in the steel is lost to us because of the weakness of the skin. If a method can be developed for protecting these steels from oxygen during manufacture, a great many failures could be eliminated and we would actually be getting the full value of the extra money put into higher carbon and alloy steels. The problem is not easy of solution, but once solved would produce large savings.

Corrosion, Foaming, Lubricants

(4) Corrosion. The corrosion of materials costs the railroads large sums of money each year, and the study of methods to reduce this loss by surface protection, or the use of new or different materials, will pay large dividends.

(5) Foaming. A thorough study of foaming and the factors that influence this phenomenon will, when the problem has been solved, enable us to run engines longer between washings and reduce the amount of blowing required.

(6) New Lubricants. The development of new lubricants is essential, as we are now using superheat temperatures that crack present-day oils. Also, we are experiencing difficulties in lubricating Diesel engines. Further, we are using car oils that have as high as four per cent lead from the bearings in solution at the end of six months' service. The development of new oils to withstand these conditions will reduce repair costs and permit us to obtain the benefits of operation at higher temperatures.

(7) Notch sensitivity of alloy steels in locomotive boilers and parts. The increasing demands and greater loads imposed on the modern locomotive have required the substitution of alloy steels in place of the plain carbon steels formerly used. It is often possible by a small addition in cost to produce parts which, in a testing machine, are two to three times as strong as a plain carbon steel. Yet when these parts are put into a locomotive, the presence of small machining errors, such as scratches, grooves, nicks and the like, may destroy the value of the alloy. These nicks set up stress localizations which lead to early failure, and the stronger the steel, the more severe is the local overstressing. If it were possible to change these steels, perhaps by the addition of other alloys or by other heat treatments in such a way that this localization of stress would be prevented, their service life could be increased many fold. As an example of the lengths to which this damage can go, we have known of instances where a 12-in. main axle of alloy steel failed from a $\frac{1}{64}$-in. ridge in a fillet. Progressive fractures originated at this ridge and progressed across the axle.

These are but a few of the many examples of studies in basic research that could be pursued with the prospect

of bringing great benefits to the entire railroad industry when satisfactory solutions have been found.

Examples of Applied Research

Applied or physical research (the second of the five divisions of technological research) can be considered as the application of basic research to materials, processes or appliances now in use. As an example, the proper drafting of locomotives and a reduction in cinder cutting is one problem now being studied. A typical analysis of front-end cinders shows 60 per cent combustible material. This is sheer waste of coal, and, in addition, results in an excessive amount of cutting in the tubes.

Welding practices are also being studied. Modern welding practice on the railroads consists, for the most part, of tying two pieces of metal together in such a way that the resulting joint is as strong as the original material. Unfortunately, very little attention has been given to the effect of the weld, and the stresses set up by welding, on the structure as a whole. For example, syphon welds may be perfectly sound but may set up such stresses in the body of the syphon that it cracks elsewhere. Proper stress relief would eliminate this danger. Considerable study is needed to determine the extent to which this practice is necessary.

Photo-elastic studies of track, locomotive and car materials, which comprise a promising field of applied research, will be mentioned later. A host of other subjects in applied research are crying for solution, including weight distribution and the possibilities of new materials to be used for crossties.

Other Sub-Divisions Defined

Specification and standardization research is that branch of technological research that consists of developing specifications based upon research investigations and of promulgating recommended standards. Appliance-testing research is directed specifically toward determining the performance and economy of appliances, while techno-economic research is concerned with such studies as those involved in determining the economies to be derived from line and grade revisions, or of the use of light-weight construction; the relative merits of Diesel, steam and electric operation; and the effect of new technologies upon operating practices.

Many of these techno-economic studies have been made by the Rio Grande in co-operation with various manufacturers and committees of the mechanical and engineering divisions of the Association of American Railroads. Co-operating with motive power manufacturers, a study has been made of the economies of Diesel, steam and electric operation, which has resulted in the successful use of Diesel freight locomotives on the property, and which has shown that on a certain territory electrification would show large economies over Diesel and steam operation.

Large Savings with Crawler Equipment

Studies of contractors' practices caused us to depart from the conventional type of equipment we had used for maintaining the railroad up to six years ago. At that time, steam ditchers and shovels, used in conjunction with work trains, were employed for earth-moving operations. This equipment was replaced by an investment of $85,000 in modern-type crawler equipment, which has shown an annual saving of $750,000.

These machines are extremely flexible units and are capable of doing a wide variety of work, much of which cannot be accomplished with the older types of equipment. They are used for bank widening, cutting drainage ditches, rip-rapping, filling bridges, shifting track, grading for new track, ditching cuts, removing rock slides, restoring embankments after washouts, and plowing snow. Bulldozers, which in the summer time are used for handling dirt, are equipped with snow blades in the winter. With a number of such units available, it has been possible to eliminate some of our snow sheds and rotary snow plows. This equipment is highly mobile and it is not necessary to wait for the track to be restored to service to bring it into operation in attempting to repair the damage caused by washouts, wash-ins, rock slides, derailments, and other causes of traffic interruptions.

In the case of a derailment involving a pile-up of cars, a large bulldozer, equipped with a winch and cable, can clear the line much more quickly than can wreckers working from both ends. Similarly, where rocks and other debris are washed down on the track in canyon territory subject to cloudbursts, we have found that these bulldozers can clear the line in less than one-sixth the time which it would have taken old-style ditchers working from both ends of the blocked territory. These crawler-type machines have practically eliminated the use of work trains on the Rio Grande. In fact, in view of the unprecedented amount of traffic which is now being carried on our single track, it would be almost impossible properly to maintain the railroad without them.

In attacking problems in either fundamental or applied research, we found that adequate tools were not at hand properly to interpret certain data. In 1936, Ray McBrian, engineer of tests, who has since been promoted to engineer of standards and research, was sent to visit with members of the research and testing laboratories of a number of large industrial concerns and of the Massachusetts Institute of Technology, the object being to determine what equipment and techniques would be best adapted to railroad work. A laboratory was built and equipped near our Denver shops. Competent metallurgists, chemists and physicists were retained to supplement the original test work with a program of basic research covering many phases of mechanical equipment, way and structures. Since that time, additions have been made to the building and equipment, but the total amount invested in the laboratory and equipment to date is only slightly over $42,000.*

How Laboratory Is Equipped

Equipment in use at the laboratory includes a photo-elastic unit for design research; a magnaflux that has been adapted to research covering the design of railroad materials; a stroboscope that was installed to carry out a study of the design of moving parts; spectographic equipment for basic research covering the development of materials; a damping capacity recorder which is being employed to make a study of the aging properties of steel; and an X-ray diffraction unit for studying locked-up stresses in various parts of equipment. Apparatus is also at hand for making studies of material at elevated temperatures to determine the cause of aging of metals in railroad service. All this is supplemented by the various standard testing methods and equipment designed for routine checks on material.

In a monetary sense the laboratory has repaid the investment several times over each year since it was established. The staff and equipment have been of great

* A detailed description of this laboratory, including its organization, the equipment employed and the studies being made, was published in the *Railway Age* of August 6, 1938, page 213.

value to committees of the A. A. R. and manufacturers of railway supplies, as well as to the railroad itself, for when tests showed defective design or construction, there were at hand tools which could be used constructively for determining how these defects in design or construction could be overcome. Therefore, in many cases the attention of the manufacturer was called not only to the defects in his materials or appliances, but to ways in which these defects could be overcome. As a result, co-operative research is being carried on for a number of industrial establishments scattered throughout the country which are interested in the manufacture of railway materials.

As a result of our investigations with the photo-elastic equipment many changes have already been made in the design of track fastenings. With this equipment we can now determine with far greater accuracy how thick a tie plate need be, whether a joint bar should have four or six holes, what size bolt is necessary, where bolt holes should be located, and how stresses are distributed in the rail section. However, it is not planned to stop with the study of design. Most of the ferrous metals used in the track structure are in the rolled condition, and most of the failures are found to originate in the decarburized surfaces. Very little study has as yet been given to the possible elimination of this condition, or to the part it plays in the origin of failures—in fact, it has not been considered when designs have been studied and specifications made.

Bolts and Bolt Holes

Another matter involving the track structure that we have under study is the proper size, finish and location of the bolt and bolt hole in the track structure. It has been found that bolts of a certain size remain tight with 24-in. bars, while smaller bolts suffer a loss of tension. It has also been found that sharp edges left in the bolt hole result in the localization of stresses which cause cracks that break out in the head of the rail, especially in road crossings; further, that the presence of bolt holes in rails installed in tunnels results in serious failures from corrosion fatigue, and that decarburized surfaces of bolts result in failures.

The phenomenon known as foaming that occurs in locomotive boilers has long been a serious problem. It had always been the thought that the only solution to the foaming problem was through some chemical process. Walter Leaf, one of the laboratory's technicians, made an important discovery in the laboratory one afternoon while watching the action of boiling water. He found that when large bubbles came to the surface of the water they broke, but that the small bubbles, rather than breaking, formed one on top of another to cause the condition known as foaming. By inserting a plate part way up in the boiler, equipped with cone-shaped openings, the small bubbles were caused to form into one large bubble, which broke when it reached the surface of the water, thereby reducing materially the amount of foaming which took place. We are now experimenting with this device by means of a test installation in one of our locomotives.

The use of magnaflux, in co-ordination with the stroboscope, strobolux and photo-elastic equipment, has been of great help in determining the manner in which the equipment failures develop, and from this knowledge new designs and new materials are being created. We now know, for example, where the grease plug should be inserted in a locomotive main rod, for the point of minimum stress may be found photo-elastically.

Since many materials accepted as commonplace are now impossible to obtain, it is necessary to find and test substitutes, or develop methods of reclaiming the used materials. For this reason the work of finding, testing and determining the fitness of substitute materials is now an important function of the chemical department of the laboratory. Also, methods of prolonging the lives of materials are under constant study.

Finds Others Have Same Problems

Extensive studies have been made for the purpose of developing means of combating corrosion caused by the sulphurous acid in the 6¼-mile Moffat tunnel, through which the Rio Grande operates. In attacking the problem, we were very much interested to find that automobile manufacturers were conducting research along the same line, for the automobile crankcase was also being attacked by sulphurous acid. Upon going deeper into the subject, it was found that English and continental railroads have spent considerable effort in attempting to solve the same problem.

Thus, one of the most illuminating things which we have found in attempting original research is that frequently the same problem has been attacked by others interested in obtaining the same results. We have found also that many of the most valuable answers have been obtained, not through the test tubes of our own laboratory, but by having an organization competent properly to evaluate the work which has been done in other research studies—by individual railroads, A. A. R. committees, and research staffs of manufacturers, universities, or independent laboratories—which results are not fully understandable to us until we can undertake a diligent study of our own to investigate the problem as it applies to our property.

The value of a laboratory cannot be measured by the physical equipment which it contains, but rather by its director and staff. Such men have time to put their feet on the table and consider problems with which we will be faced in the future, as well as those that are immediate and pressing. They need not have the inhibitions of one who has spent his life in a line organization and has been trained to act and build according to standardized plans and practices. Such men may divorce themselves completely from the telephone, telegraph and typewriter, and carry through to thoughtful conclusion the inquiries upon which they have embarked.

During the past few years a sharp impetus has been given to research by a number of individual roads. Outstanding work has been done by such roads as the Boston & Maine, the New York, New Haven & Hartford, the Pennsylvania and the Illinois Central, while many other lines are now appropriating substantial sums for this work. The various divisions of the A. A. R. have engaged in significant studies of great value, and in this work they have had help from the laboratories and faculties of many prominent colleges and universities. Further, they have been ably assisted by well-organized research departments maintained by manufacturers of railway materials and appliances.

On a Central Research Agency

In 1934, the Science Advisory Board of the National Research Council, acting in conjunction with the regional co-ordinating committees functioning in connection with the work of the Federal Co-ordinator of Transportation, made a study of research methods and possibilities in the railroad field. The report of this group contained the following statement: "It is believed that substantial profits will inure to the railroads and to

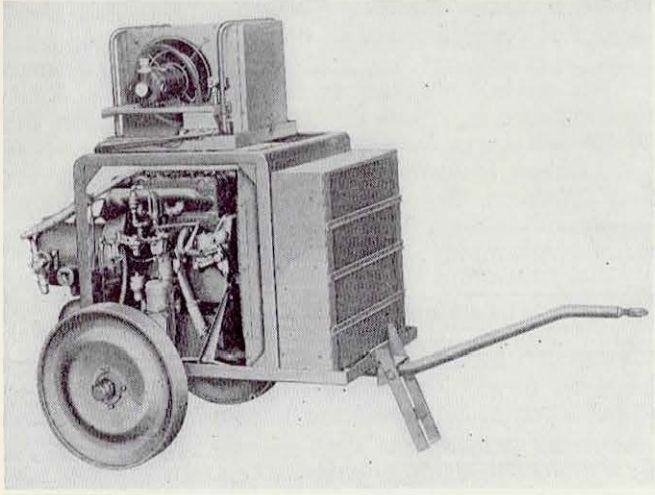
their future development if a way can be found to permit of establishing and maintaining a central research organization competent to deal with the major problems of common interest, organized so as to enhance rather than destroy any of the existing agencies or contacts." In line with the thought underlying this study, the original set-up of the A. A. R. provided for a Department of Research, with a vice-president of the association in charge. However, this position has never been filled.

It seems to me that the present is a most opportune time to appoint someone to this post. For the present emergency, which is taxing all transportation facilities, will develop new technologies that may be of great help now as well as after the war. Certainly, the air lines, pipe lines, waterways, and motor manufacturers are taking advantage of rapidly changing conditions to experiment as never before with new methods and materials.

I do not believe that the railroads will show the lack of foresight that would be theirs if they did not take full advantage of an expanding science and the exigencies of war, which are bringing to the transportation industry technological changes of such great magnitude. Nor do I hold with those pessimists who say that after the war the cargo plane, pipe lines, an augmented merchant marine, and a greatly expanded system of waterways, will relegate the railroads to the horse-and-buggy era of transportation—those same pessimists who are today selling railroad securities at little more than their annual earnings. For they have failed to heed one of the most significant changes which is taking place in our thinking—have failed to note that the railroads are beginning to fight this all-out war with all-out research, reaching back into the past to interpret the present and grasp with full understanding the implications of tomorrow; seeking with stout hearts and open minds to keep the railroads—now and for the future—dominant in the field of mass transportation.

Air-Cooling Unit

A PORTABLE gasoline-powered refrigerating unit, for space or spot cooling where servicing or repair operations are done, is now being made by the Refrigeration Division, Waukesha Motor Company, Waukesha, Wis. It can be applied to many railroad jobs which are made difficult by high temperatures. These include boiler making, tank car cleaning, car loading, etc.



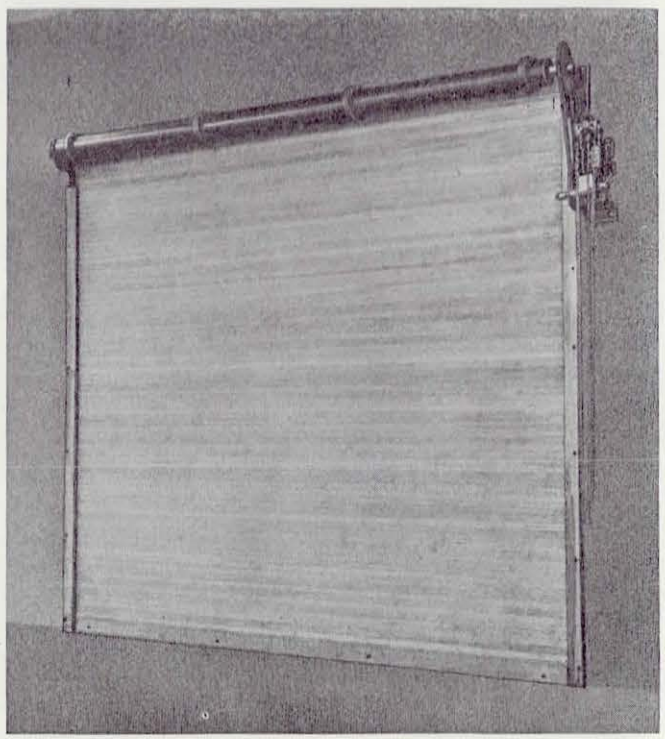
Waukesha Air Cooler Ready for Transport With Evaporator on Top of the Refrigerating Unit

The four-cylinder gasoline engine is direct-connected to a rotary refrigerant compressor and an electric generator. These, with the condenser and fuel supply, are mounted on a wheel chassis. A 15-ft. flexible refrigerant line, made of Resistoflex, and an electric cable connect the refrigeration element assembly to the portable unit cooler element, the latter consisting of an electric-driven fan and cooling coil.

At a temperature of 100 deg. F., the unit will supply 1,000 c. f. m. of air reduced to 67 deg. F. as it leaves the face of the unit cooler element.

Wood Rolling Door

THE Kinnear anufacMturing Co., Columbus, Ohio, has developed an upward-acting wood rolling door which incorporates the same operating principle that is used in the Kinnear steel rolling door and is reported to afford many of the same advantages, with a large reduction in the use of vital war materials. The curtain of the wood rolling door is composed of wood slats, suitably shaped to permit easy articulation and joined together by means of metal tapes or cables.



Interior View of the Wood Rolling Door in Closed Position

Like the steel rolling door, the curtain coils overhead on a barrel mounted on heavy cast iron brackets on each side of the doorway above the lintel. The curtain travels in heavily-constructed wood guides on each side of the doorway and bearings are provided at the points where the curtain enters the guides. Helical springs enclosed in the barrel provide counter-balancing and operation can be manual, by chain and reduction gearing, or by motor.

Coiling as it does above the lintel, the wood rolling door does not require any floor, wall or ceiling space for its operation. It can be built to order in any practical size and can be readily installed in old or new buildings.

Big Money in Land-Grant Discount

Exhibit from study board staff puts monthly savings to the government at $20,000,000—Other public-aids statements present additional highway and waterway data

WASHINGTON, D. C.

SAVINGS to the government from the application of land-grant deductions to railroad rates on troops and property have increased to $20,000,000 a month, according to an exhibit included in the latest batch released by the Transportation Board of Investigation and Research in connection with its study of public aids to transportation. Like the previous ones, the present exhibits "are issued as preliminary statements of the staff," and, it is stated, they "have not been approved or adopted by the Board."

The previous exhibits were distributed last June, as noted in the *Railway Age* issues of June 20, 1942, page 1184, and June 27, 1942, page 1239. Then came the public hearings, reported in the issues of July 4 and 11, 1942, where interested parties got their opportunity to shoot at the exhibits. Some of the present batch are revisions of those considered at the hearings, while others are new. Comments should be submitted to the Board on or before February 1, according to Dr. Burton N. Behling, director of the study.

Rail, Highway and Waterway Exhibits

There are three railway exhibits in the present group, all relating to land grants. One covers federal and state land grants; a second covers right-of-way grants and other aids; and the third considers land-grant and related rate deductions on railroad transportation of mail, troops and government property. The nine highway exhibits include a new summary statement and revisions of seven exhibits previously distributed. Also, there are two new highway statements, which cover annual costs, 1921-1940, and compare such costs and annual highway expenditures as found by the Board's staff with annual costs of other studies. Finally, there are 14 waterway exhibits, including a revised statement of the annual cost of federal aid to waterways by individual projects for the year 1940, and 13 additional studies of individual ventures. The latter include statements covering the government-owned Inland Waterways Corporation, the Panama Canal, the Ohio river, the Missouri river, the New York State Barge Canal, and the Columbia river and tributaries.

Non-Land-Grant Roads Largest Contributors

In the exhibit covering land-grant deductions it is pointed out that the savings to the government in connection with traffic moving over land-grant roads have accounted for a "considerably smaller" part of the total savings than have the equalization agreements entered by non-land-grant roads competing for government traffic. Because it would involve "a staggering task of detailed analysis," no differentiation was made by the Board's staff between the deductions required and those resulting from the equalization agreements. The exhibit finally arrives at the following of estimated savings to the government up to June 30, 1942:

Period	Troops	Property	Total
To Dec. 31, 1927.....	$.....	$.....	$56,000,000*
1-1-28 to 12-31-33.....	.....	14,442,000	14,442,000
1-1-34 to 12-31-40.....	.....	64,611,000	64,611,000
1-1-28 to 6-30-40.....	5,377,000	.....	5,377,000
7-1-40 to 12-31-40.....	1,534,000	.....	1,534,000
1-1-41 to 8-31-41.....	4,430,000	20,180,000	24,610,000
9-1-41 to 4-30-42.....	13,417,000	47,954,000	61,371,000
5-1-42 to 6-30-42.....	7,493,000	26,568,000	34,061,000
	$32,251,000	$173,755,000	$262,006,000
To 6-30-41.....Mail.....			76,346,000†
To 6-30-42.....Express.....			2,431,000
			$340,783,000

* Not separable.

† No savings in fiscal year 1942, due to elimination of deductions on mail as provided by Sec. 321 (a) of Title III, Part II, of Transportation Act of 1940.

Aggregate Land-Grant Deductions $340,783,000

Thus does the Board's staff estimate that by the close of the last fiscal year ended June 30, 1942, the government had saved a total of $340,783,000. The estimate that the rate of savings has now reached $20,000,000 a month came from an appraisal of the sharp upward trend which set in with the defense and war programs.

"The great increase in the 1941-1942 period, as compared to prior periods," the statement says, "is explained, of course, by the tremendous movements of troops and war materials in connection with the current national emergency. Deductions on troops and property for the month of April, 1942, reported by Class I railroads and the Railway Express Agency amounted to slightly more than $12,500,000. In June, 1942, the last month covered by this study, the travel and transportation activities of the armed services appear to have been approximately 50 per cent greater than in April. On this basis it is estimated that, at the beginning of the current fiscal year, savings to the government from land-grant deductions on troops and property amounted to at least $18,500,000 per month. As the trend was still upward at the time, it is probable that the monthly rate has since increased to as much as $20,000,000."

Previously the exhibit had reviewed briefly the court proceedings which culminated in the 1879 decision establishing the 50 per cent formula for land-grant deductions. It went on to point out that operating conditions "have changed considerably over the years," and thus the same formula applied to earnings of recent years produces "substantially different" results.

"For example," it continued, "the application of this formula to earnings for 1939, 1940 and 1941 yields reduction percentages of 29.8, 30.7 and 35.7, respectively. The principal factors contributing to the decreased percentages in the more recent periods may be found by comparing certain major items in 1877 and in 1940. In 1877 the ratio of investment in equipment to investment in road and equipment was 11.11 per cent, as compared with 24.11 per cent in 1940; the ratio of maintenance of way and structures expenses to total operating expenses was 26.46 per cent in 1877 and 16.09 per

cent in 1940; and the ratio of net railway operating income to total revenues in the early period was 36.22 per cent, as compared with 20.86 in 1940. All these changes, including the lower percentage of net railway operating income to total revenues, tend to reduce the roadway percentage under the formula."

Acreage and Value of Lands

The exhibit relating to federal and state land grants sets up data on the acreage received and gives estimates of the net proceeds realized by railroads from sales, and of present values of lands still held for sale. Also, railroad and federal coordinator estimates of the values at the time of the grants are shown. The latter are $169,424,305 and $174,264,999, respectively. This difference (94.5 cents an acre as against 97.2 cents) is said to be "not great enough to constitute an important issue"; although it is recognized that "a wide difference" exists as to how the grants should be valued—"some investigators have favored a valuation of the lands at the time of the grants while others consider the net proceeds derived from land sales plus the present value of lands still retained by railroads represent the amount of aid conferred."

Without indicating which valuation basis it may eventually favor, the Board's staff went on to make its own estimates of the net proceeds of sales and present values of lands still held. It arrived at a total figure of $492,017,143 for both as of December 31, 1941. The net proceeds of sales were found to be $431,333,111, i.e., the gross proceeds of $598,970,978 less $167,637,867 of expenses for administration, sale and taxes. The lands still held for sale on December 31, 1941, were valued at $60,684,032. Aside from including later years, these figures are also on a different basis from those included in the former coordinator's "Public Aids to Transportation" report. The Board's staff found adjustments necessary because the coordinator's figures did not reflect the activities of "certain subsidiaries or affiliates of railroads in connection with lands conveyed to them by the grantees or their successors."

With respect to the total acreage received, the exhibit takes the figures from the coordinator's report and annual reports of the Secretary of the Interior. These data show that as of June 30, 1940, the granted lands totaled 179,284,978 acres, consisting of 130,401,606 acres of federal lands and 48,883,372 acres from the states.

The third land-grant exhibit, as noted above, covers railroad right-of-way grants and other aids, including donations by individuals and private corporations and "apparent aids." The right-of-way grants were donations for right-of-way purposes, as distinguished from the land grants which were intended to be sold in order to facilitate railroad construction. The estimated acreage involved as of December 31, 1941, is 1,411,872, while the estimated value as of January 1, 1940, is $291,605,361. The largest single item in the valuation column is the "apparent aids" estimated at $155,675,177. That term, the exhibit explains, is applied "to those lands received by the railroads from local governments, individuals, associations, and private corporations under conveyances reciting nominal considerations." At the same time it suggested that "it is questionable whether there is a reasonable basis for classifying as public aids, donations of lands by individuals, associations, private corporations, and particularly the 'apparent aids.'"

In the highway exhibits the annual cost of primary highways for 1940 is put at $706,891,000, as compared with an "annual expenditures" figure of $920,697,000. For the 1921-1940 period the expenditure figures total $14,640,341,000, while the annual-cost figures total $8,779,687,000. For all highways, roads and streets the exhibit puts the 1940 annual-expenditures figure at $2,284,183,000, and the annual cost at $2,085,059,000. The total of annual expenditures for the 1920-1940 period is shown as $39,184,412,000, as compared with the $30,307,850,000 total of annual-cost figures.

The "annual expenditures" figures, it is explained, show the actual outlay made in a particular year "for maintenance and operation, construction and improvement, and for payment of interest on outstanding highway debt"; while the "annual costs" include "annual expenditures for maintenance and operation, an annual amortization charge to spread capital expenditures over the estimated period of usefulness of the facilities provided, and an interest charge on the remaining unamortized capital investment in existence at the beginning of the year." The annual costs "have been derived as a step in the process of finding whether or not there has been public aid to users of the highways and streets." There remains to be determined "how much of the total annual costs may reasonably be charged against motor vehicle users and particular classes thereof and whether the pavements they have made as compensation for the use of the highways and streets have been sufficient to cover the costs assignable to them." Findings on those matters have not yet been made.

Bases of Waterway Studies

The summary statement introducing the tabulation of federal aid to waterways by individual projects for the year 1940 points out that the waterway studies have been based on four propositions as follows:

1. A finding should be made of government costs incurred in aid of present waterborne commerce, eliminating expenditures for improvements that are no longer useful to navigation. The cumulated total of past expenditures (in aid of water transportation) should be noted only for whatever historical interest it may have.

2. Transportation should be the center of interest in this study. Expenditures to improve waterways for other purposes, such as flood control, hydroelectric power and irrigation, should be segregated.

3. Each waterway should be analyzed with reference to its own cost and traffic characteristics. The wide variety of geological, cost, and traffic conditions found in different parts of the country creates a presumption that few if any important generalizations can be found to apply to all channel and port developments.

4. Government costs should be expressed per unit of traffic on each waterway, in such a manner that total public aid can be computed for any given movement of traffic over any combination of improved or unimproved channels.

In arriving at its figures on current annual costs of public aid to waterways, the Board's staff found it necessary to make "substantial adjustments" in data obtained from "various publications of the Army Engineers." Thus each analysis, as the exhibit put it, amounts to "an estimated construction from expenditures data of the full economic cost to the federal government of waterway improvements—an estimate in retrospect of those costs to which the Army engineers refer only in making predictions." A footnote suggests that this "does not necessarily imply criticism of the Engineers' records"; because "accounting for funds actually entrusted to them probably meets all of their administrative requirements."

Elements in the annual cost of waterways, as thus calculated, include items for interest expense, amortization,

and maintenance. Among "purported costs excluded" were allowances for "tax equivalents" and for "the usually greater circuity of water routes." In rejecting these items, the staff pointed out that, in addition to the public-aids study, the Board is also investigating the relative economy and fitness of the various types of transport and the impact of taxes on carriers. "Nothing in these exhibits," it added, "will preclude other divisions of the Board from making any computation that they may find proper in reaching their own conclusions. It is just as important that the findings of the public aids study be free from conclusions that would require subsequent modification or reversal as a result of more detailed analyses that are being made or may be made in connection with other studies."

50-Year Life for Waterways

Amortization of waterway projects is computed in the exhibits for a 50-year period, this being based "primarily on what is the commonest practice of the Army Engineers." To write off the cost of facilities no longer useful to navigation, the staff adopted a formula which multiplies total cumulative expenditures for new work by the ratio of appropriations in the last 50 years to total appropriations. "This formula," it is stated, "is intended to be an approximate correction, appropriate to a survey of several hundred channels. It has the effect of charging off a larger part of past costs on very old projects than on newer improvements. In a limited number of more detailed studies of specific projects, it has been possible in some cases to write off the cost of specific facilities that are no longer useful."

In compiling the waterway traffic data, the staff included ferry traffic, cargoes in transit, and passenger traffic, converting the latter on the basis of four passengers to the ton for regular passengers and 12 to the ton for ferry, recreational and excursion passengers. It considered but rejected the idea of eliminating from the traffic data movements of rafted logs, sand and gravel, and government freight. These were all included, for reasons set forth in the exhibit. Unit costs are set up on a ton and ton-mile basis, the former being called the "more significant" figure for harbors and coastal channels, while the cost per ton-mile is "more meaningful" on inland rivers and intracoastal waterways."

As indicated above, separate studies are being made of the more important waterways. Meanwhile, the summary exhibit covering federal costs for 1940 runs to 35 mimeographed sheets, although it lists many waterways with respect to which there were no federal costs in 1940. Also it presents some interesting costs per ton and per ton-mile, especially for the smaller projects. On the Coosa river in Georgia and Alabama, for example, the 1940 costs to the federal government are calculated at $1,915.16 per ton or $957.53 per ton-mile. In other words the government entailed a cost of $95,753 to aid in the movement of 50 tons an average of two miles—a performance of 100 ton-miles.

No Optimism About Missouri River

In its separate exhibit on the Missouri river, the staff sees no possibility of that project ever attracting the traffic which would reduce the federal cost to less than five mills per ton-mile, the basis attained on "most of the long-haul Mississippi Valley waterways which have been improved for a sufficient period to develop a mature traffic." While noting that "no accepted standards exist for setting the maximum unit costs on an economical waterway," the exhibit nevertheless has this to say: "If the Missouri river is to achieve a five mill per ton-mile federal cost, it must carry 2,900,000,000 ton-miles of commerce annually. This would represent 550 times as much traffic as is now carried, if government freight now using the waterway is not deducted. It would represent perhaps 1,000 times as much commercial freight as is now being carried. Barring a tremendous development of industry in the Missouri Valley, it is difficult to see any possibility of attaining so great a volume of traffic on this river."

A table showing federal public aid on the Missouri divides the river into the lower, middle, and upper sections. The 1940 subsidy per ton-mile was 10.78 cents on the lower section, 31.9 cents on the middle section, and 7.04 cents on the upper section. Passenger traffic, including many who were workers on the river improvements, got 1940 subsidies of $1.48 per passenger on the lower section, $1.57 on the middle section, and 62 cents on the upper section. The unit-cost computations, it is pointed out, "must allow for the fact that the improvements are incomplete and that the project depths have so far been maintained only during the earlier months of navigation." The exhibit estimates that the completed work will cost the federal government $129,285 per mile, and the annual cost will be $7,626 per mile.

Putting I. W. C. on "Private-Enterprise" Basis

The Inland Waterways Corporation exhibits includes a table which shows what that agency's financial results for the years 1936 to 1941 would have been if certain "unrecorded costs" had been included. On that basis the Corporation's 1940 statement indicates that total federal aid in that year amounted to $1,049,246.19. That figure is derived by adding I. W. C.'s reported 1940 deficit of $190,561.77 to "unrecorded costs" totaling $858,684.42. The latter includes interest at $786,126.48; personal injury claims paid by U. S. Employees Compensation Commission, $15,813.79; franking privilege, $27,000; and estimated depreciation not recorded, $29,744.15. I. W. C. shippers in 1940 thus received federal aid amounting to 40.9 cents per ton or a half mill per ton-mile. In only one year of the six shown—1938—was there a net after "unrecorded costs." It amounted to $232,370.49, whereas the I. W. C. income statement for that year had shown net income of $1,105,449.71. The average annual net loss on the "private enterprise" basis for the six years is $1,377,591.97.

In comparing the "direct savings to shippers" with these losses, the exhibit points out that such "savings" make no allowance "for the usually superior service offered by railroads." Moreover, they are "confined to a comparatively limited group, while the costs are borne by society at large"—an observation which "of course, is true of any subsidized enterprise." Finally, however, I. W. C. is given credit for keeping common carrier services alive on the rivers, and thus the subsidy is not appraised too harshly.

"The federal public aid per ton and per ton-mile involved in the operations of the Inland Waterways Corporation," the exhibit says, "is small compared with the public aid involved in improving the channels on which the Federal Barge Lines operate. Since this agency offers the only common carrier service on some of these channels, and is the principal common carrier on all of them, to abandon the Inland Waterways Corporation would tend to confine use of these channels to the larger corporations who own or contract for their

(*Continued on page 167*)

Materials Situation Worries I.C.C.

Annual report reflects continuing concern over the effect of allocations on transportation services and the safety of operations

WASHINGTON, D. C.

CONTINUING concern of the Interstate Commerce Commission over the stringent materials situation is reflected again in its fifty-sixth annual report which warns that "unless there can be allocations of sufficient materials to the transportation agencies to permit them to maintain, renew, and operate their plants, so that they may continue their present standards of service, more restrictive government control of the use of transportation service will necessarily follow."

Recalling the similar warning of its previous report, the commission, while asserting that "some increase in equipment is also clearly necessary," thought it now "safe to say that continuance of sufficient transportation during the war depends more on adequate maintenance and replacement of physical plant and equipment of the carriers than any other factor."

Shortages Impair Safety of Operations

Moreover, the materials shortage is tied into the commissions discussion of the increase in accidents, where it is asserted that the situation disclosed by recent accident reports emphasizes "the importance of allocating to the railways the materials necessary for adequate maintenance of plant and equipment," as well as the need for increased safety effort. "Restrictions placed upon the use of materials required for railroad facilities and equipment," the report adds, "have resulted in serious delays in revising existing installations, in making necessary new installations, and in securing needed replacements and additions. These restrictions, accompanied by the intensive use of locomotives and cars and the curtailment of construction of new locomotives and cars, have required extra efforts by inspection and repair forces of the railroads, and have placed increased responsibility upon our inspectors to see that there is no relaxation in the standards and precautions necessary for safety of operation and for the protection of employees and the public."

The report which went to Congress on January 7 is in the usual form, being a 147-page document reviewing commission activities during the period from November 1, 1941, to October 31, 1942. No legislative recommendations are made, the commission concluding that it would not in these abnormal times suggest any changes in existing law. "The Transportation Act of 1940," the report says in that connection, "has now been in effect a little more than two years. It recast important provisions of law relating to rail and motor carriers and established regulation of carriers by water. During this year Part IV establishing a system of regulation of freight forwarders was enacted. As we have indicated above, transportation is now, and for some time past has been, devoted very largely to the prosecution of the war. This must necessarily be so for 'the duration.' It follows that experience during this period has little relation to normal conditions."

Nevertheless the report does remind Congress that no action has been taken with respect to the commission's August, 1941, recommendation that it be given power, upon complaint, to set aside state regulations governing sizes and weights of motor vehicles. The commission understands that the proposed legislation has been held in abeyance until the effects of actions taken by the states could be determined. Meanwhile, "we are keeping generally informed of developments and will make such recommendations to Congress as may prove necessary." Also, the report keeps alive the commission's perennial suggestion that Congress should provide for complete coverage by the federal government of the standard-time-zone field. A couple of pages are devoted to recent proceedings in the standard time zone investigation, including many complaints arising from the application of war time. "The strength of this tendency to a local time differing from the federal standard," the discussion concludes, "is largely due to the fact that the observance of the standards set up by the Standard Time Act is not compulsory, except on the designated classes and to the limited extent specified in the law, and that local observance is entirely voluntary. This feature has been discussed in several of our previous reports."

Meanwhile first place in the report had been given to a discussion of "Transportation and the War." There the commission recalled how the declarations of war "served to heighten the concern so widely prevalent in the latter part of 1941 as to whether the various transportation agencies of the country, particularly the railroads, would be equal to the increasing burdens being imposed on them by the national defense program." Particularly, it added, there arose "the question whether, as in the first World War, the President would find it necessary to assume control of the principal systems of transportation within the United States."

This War Found Railroads Ready

It was "readily apparent," however, that conditions in December, 1941, "differed in many material respects from those which led to federal control of railroads at the end of 1917." In the latter connection the commission told how the decrease in the equipment inventory had been offset by improved operating methods and mechanical capacity which had materially increased the amount of work the railroads could perform. Also, the railroad industry was "better organized for centralized action"; government agencies "had largely avoided the conflicts over priorities which had so disturbing an effect" in 1917; and the commission's emergency powers with respect to the movement of traffic by rail "had been considerably widened by the Transportation Act of 1920, and were shortly to be extended with respect to motor transport by the Second War Powers Act, 1942."

Moreover, the railroads were in 1917 confronted with "menacing labor disputes," whereas the similar situation of December, 1941, was resolved in "a timely composition" which "avoided this obstacle to efficient operation." Finally, the rate situation in 1917 "was considered unfavorable," as compared with that of early 1942 when "an adjustment of freight and passenger

charges was accomplished in a relatively short period of time following the Pearl Harbor attack." Also, orders of the Office of Price Administration "have considerably stabilized the costs of materials used by the railroads."

On the other side of the picture, the commission listed "the unexpected development of an acute shortage of rubber for civilian use and the disruption of coastwise and intercoastal traffic by water," foreshadowing "the imposition of an increasing and severe strain on the railroad system, with every sign that improvement would be long deferred." And the shortage of materials "manifestly prevented any hope of constructing an important amount of new equipment for land or water carriers."

ODT Set-Up Contemplates Cooperation

With the foregoing conditions placed at the time of our entry into the war, the President, as the report points out, had three courses open to him. He could have proceeded under the Act of August 29, 1916, taking over through the Secretary of War the control and operation of the carriers; he could have assumed possession and control under the same act, arranging, however, for operation by the private owners; or he could utilize existing agencies to direct priority and require movement of troops and material, making use of the voluntary cooperation of organizations of carriers and shippers.

The creation of the Office of Defense Transportation amounted to adoption of the latter course, since the action was taken by the President by virtue of his authority as Commander in Chief of the Army, and was not based upon the Act of August 29, 1916.

The commission notes that the Executive Order prescribed "no procedure of quasi-judicial character or for judicial review of orders of the Office of Defense Transportation"; although the President did direct ODT to collaborate with existing agencies, including "the Interstate Commerce Commission on problems of rates, routing, and car service." Reference is next made to the designation of Joseph B. Eastman as director of ODT; and to the fact that he has retained his place on the commission with inactive status.

In his role of ODT director, Mr. Eastman has taken advantage of the authority conferred to utilize the personnel, facilities, and services of the commission. This has been particularly true with respect to the field force of the Bureau of Motor Carriers, the report says. For its own part the I. C. C. has "given to the director and his staff every aid possible in the administration of his difficult task." At the same time, "we have undertaken to administer the emergency powers committed to us under section 1(15) of the Interstate Commerce Act, and those more recently provided in the Second War Powers Act, and will continue to do so, while we endeavor to avoid duplication and conflict with respect to similar functions being exercised by the Office of Defense Transportation."

Is ODT By-Passing the Commission ?

The latter remark concluded a discussion of the use by ODT of those Interstate Commerce Act powers delegated to it by the President, i.e., the Presidential powers under sections 1(15) and 6(8). The former provides that "in time of war or threatened war the President may certify to the commission that it is essential to the national defense and security that certain traffic shall have preference or priority in transportation, and the commission shall, under the powers herein conferred, direct that such preference or priority be afforded." Section 6(8) stipulates that "in time of war or threatened war preference and precedence shall, upon demand of the President of the United States, be given over all other traffic for the transportation of troops and material of war, and carriers shall adopt every means within their control to facilitate and expedite the military traffic."

The section 1(15) power which applies "in connection with concurrent action by this commission," the report notes, "has not yet been utilized by the Office of Defense Transportation"; whereas "considerable use has been made of the second power created by section 6(8)," which provision "has been interpreted as self-executing, without the aid of any powers conferred upon the commission."

"The Office of Defense Transportation," the report goes on, "has issued a number of general orders and several of these have to do generally with what is defined as 'car service' in section 1(10) of the Interstate Commerce Act, for the stated purpose of making available transportation facilities and equipment for preferential transportation of materials of war 'as contemplated by section 6(8) of the Interstate Commerce Act, as amended.' Thus it appears that the paragraph last referred to is not interpreted as merely authorizing the issuance of specific preference orders to the carriers, but as including power also to compel them to adopt operating practices necessary in the view of the Office of Defense Transportation to assure the preference and precedence to military traffic. In some general orders, this power under Part I of the act has been used as the basis of general orders to motor carriers and water carriers."

The remainder of the "Transportation and the War" section was devoted to the warning with respect to the materials situation, the commission meanwhile finding that "thus far the domestic transportation agencies of the country have met the wartime demands upon them." This success, it added, "has been due largely to the fact that their physical plant and equipment had been maintained in good condition during the period immediately prior to our entry into the war when labor and materials were available, and to the further fact that carriers and shippers have worked diligently and harmoniously to promote economy in the use of transportation." In other words, "carriers and shippers alike have sought to avoid the necessity for a comprehensive and direct federal control of transportation such as that of 1917-20."

The report's section on "Traffic and Earnings of Transport Agencies" presents data showing that total operating revenues of all common carriers subject to commission jurisdiction amounted to $8,675,313,000 for the 12 months ended June 30, 1942. Steam railways accounted for $6,428,000,000 of the total, and motor carriers of property $1,246,000,000. A tabulation of 1940 and 1941 intercity ton-miles and passenger-miles ("necessarily" involving "some rough estimates") shows that the railroads (steam and electric, including express and mail) produced 63.61 per cent of the 1941 ton-miles, as compared with 61.96 per cent in 1940. The highway-carriers' proportion in 1941 was 7.54 per cent as compared with 8.33 per cent in 1940; while the figures for inland waterways, including the great lakes, were 19.1 per cent and 19.29 per cent, respectively. Pipe line ton-miles were 9.75 per cent of the total in 1941; 10.42 per cent in 1940.

Automobile traffic, of course, put the great bulk of the passenger-miles on the highways, although the highway figure was down from 90.46 per cent in 1940 to 89.27

per cent in 1941. The railways' proportion in 1941 was 9.71 per cent as compared with 8.71 in 1940.

Commenting on railway operating revenue, the report presents figures highlighting recent large increases in both freight and passenger business. It calls attention to the fact that as of June, 1942, the revenue per ton-mile of 9.31 mills was only slightly higher than June, 1941's, 9.27 mills, while the per ton revenue ($2.02 as compared with $1.87) "advanced in about the same percentage as the average haul." The per passenger-mile revenue in June, 1942, was 1.94 cents, up 10.9 per cent from June, 1941, "which, added to the effect of a 22.5 per cent increase in the average journey, made the revenue per passenger 36.4 per cent higher."

Investor and Employee Shares of Income

A "condensed income account" set up in the report "views the employees and investors as jointly producing an income to be shared by them." From the revenues and other income it deducts all expenses and taxes except wages and salaries. For the 12 months ended June 30, 1942, this produces a balance of $3,806,000,000 which is called the "remainder available for employees and investors." The employees got $2,510,000,000 or 65.95 per cent, while the "investors' share" amounted to $1,296,000,000 or 34.05 per cent. The term investor includes both bondholders and stockholders, and their combined share was distributed as follows: Rent for leased roads, $160,000,000; interest on bonds, etc., $477,000,000; miscellaneous deductions, $41,000,000; net income for stockholders, $618,000,000.

Some of the latter, it is pointed out, would be applied to sinking funds and other reserves. Despite the large increases in net income in 1941 over 1940 and the further advance in 1942, "there was no corresponding increase in dividends," the disbursements totaling $185,845,723 in 1941 and $185,584,281 in the 12 months ended June 30, 1942. Further discussion of net income calls attention to the wide variations in increases as between the various regions. Comparing the January-September, 1942, period with the like 1940 period, the range was from the 467.2 per cent increase in the Southwestern region.

Meanwhile the improvement in earnings in 1941 enabled carriers undergoing reorganization "to cover fixed charges by a small margin, but the coverage remains much below that of other railways, and their stock had small earning power even in that year of large traffic."

Appraising maintenance activities on the basis of measures not stated in terms of money, the report shows that from 1940 to 1941, car-miles increased 17.59 per cent; man-hours in maintenance, 17.22 per cent; rail renewals, 16.6 per cent; and ties laid (mostly treated), 8.26 per cent. "However," the report adds, "the renewal of rails in 1941 (1,197,593 tons) was in sharp contrast with that in 1929, when 1,958,489 tons of new rail were laid in replacement although total car-miles were only slightly above those of 1941." In appraising that change, "the improvement in quality of steel and in methods of lengthening the life of rails should be considered."

Maintaining a Fluid Car Supply

After brief comment on earnings of motor, pipe-line and water carriers and electric railways, the commission proceeded to discuss the emergency service orders of more general application which it issued during the period covered by the report. At the same time, "much has been accomplished by voluntary cooperation of the shippers." In the issuance of the service orders, as well as in conferences with shipper organizations, "close cooperation has been maintained at all times" with ODT, the Association of American Railroads and the American Short Line Railroad Association. On the shipper side, "particular credit must be given to the National Association of Shippers Advisory Boards and the National Industrial Traffic League."

All in all, the commission has found that "the duty of maintaining a fluid supply of cars and motor vehicles in time of war is a grave responsibility, which requires daily contact with developments on the transportation front." Later on, in the detailed review of Bureau of Service activities, it is revealed that the normal force of 16 service agents has been augmented by the employment of 40 temporary agents. And some credit is taken for the Bureau with respect to the East-coast oil movement. "The Bureau," says the report, "has rendered effective service in this handling by checks made of movements through terminals and interchanges between the various railroads involved. These checks have expedited the handling of bad-order cars by assuring prompt repair and return of such cars to service, and by avoiding terminal delays."

During the year ended October 31, 1942, the commission granted 184 abandonment applications, involving 1,887.46 miles of branch line of Class I roads, together with 430.18 miles of short lines, of which 303.84 miles constituted the entire lines. Brief comment on War Production Board requisitioning activities reveals that one WPB requisition "was served before a hearing was held in our proceeding, five before proposed reports were served, seven before final reports were issued permitting the abandonments, and one in a case in which we had denied the application."

More Need For Accident Prevention

The report's discussion of accident prevention asserts that "under present emergency conditions, the prevention of accidents assumes an importance that is in addition to the economic and humanitarian considerations given them under peacetime conditions." Then after the aforementioned reference to how restrictions upon the use of materials have prevented making new installations, replacements and additions, the commission goes on to say that the "high degree of safety of locomotive operation" which prevailed at the beginning of the upturn in railroad traffic has not continued during the past several months.

"Due principally to the efforts of the railroads to short-cut inspections and hurry repairs so as to expedite road movement," the report continues, "less attention has been given by them to conditions which may, in individual cases, appear to be of only minor consequence but which, in the aggregate, materially affect both safety and efficiency of operation . . . The practice, too often indulged in, of applying only temporary repairs, in the hope that a locomotive will successfully complete a trip and that more adequate repairs can be applied thereafter when more convenient, has been productive of many locomotive failures. In addition to increasing the peril to employees and others and increasing the ultimate cost of repairs, these failures also result in delays to the trains involved, and frequently interfere with the expeditious movement of other trains. Avoidance of failures to locomotives is essential to safe and efficient railroad performance, and under wartime conditions it is more urgent than ever that all possible

efforts be put forth by all concerned to prevent such failures."

Safety Devices Shouldn't Have to Be Required

The commission goes on to recognize its "definite responsibility" for the enforcement of laws requiring that locomotives, cars, and signal installations shall be maintained "in safe condition for service"; also, "to require the installation of additional appliances if found necessary in the public interest." To counteract the upward trend in accidents, it has "directed attention in numerous cases to unsafe conditions" and in a "considerable number of instances" has called upon carriers to "show cause why they should not be required to effect improvements in existing facilities or to install new ones for the protection of property, employees, and travelers." At the same time the commission realizes that the procedures which it must follow are "time consuming"; and thus it suggests that when unsafe conditions are disclosed, the carriers "should proceed at once to make the necessary correction as part of their contribution to the war effort, without awaiting formal action by us."

In a section devoted to the "reduction of funded debt and fixed charges," the commission reviews what has occurred along those lines since the issuance of its 1933 annual report, which warned of dangers inherent in financial policies that treated debt "as practically perpetual with no provision for its liquidation." It tells how it then inaugurated the general policy of requiring sinking funds for bond issues approved; and how its reports in reorganization proceedings are requiring "drastic reduction" of the debt of railroads involved. In the latter connection, the 28 plans approved when the report was written would require reduction of funded debt from $3,242,848,000 to $1,715,620,000, "much of the latter amount being in the form of income bonds involving no fixed charges against income." Should all of the plans be approved by the courts, the railroad companies concerned would have their "obligatory fixed charges" reduced from $142,082,000 to $40,857,000. "Of this reduction, $9,606,000 has been effected, leaving $91,619,000 yet to be realized."

With respect to the railroads generally, the commission states that many "are alive to the desirability of reducing their indebtedness and have undertaken to reduce the burden of fixed charges, especially since 1933." The fact that "a large proportion of outstanding railroad bonds can be bought at large discounts" affords "a most favorable opportunity to eliminate debt and to cut fixed charges" and "the indications are that substantial operations of this character are, and have lately been, in progress." Recalling the previous annual report's discussion of the "importance of debt reduction," the commission reiterated its conviction that "both the public interest and the interests of carrier stockholders will in the long run be served by that policy."

Funded Debt Declined Slightly

Summary figures which the report gives for the period from January 1, 1932, to December 31, 1941, show that the funded debt of the Class I roads was during that time reduced from $10,850,944,438 to $10,565,084,210, a decrease of $285,860,228. Of this reduction, "at least $111,115,727 was effected through reorganization." Meanwhile interest accrued on funded debt declined from $500,036,354 in 1932 to $438,297,464 in 1939; but it increased to $469,495,539 in 1941, "due to changes in the method of accounting in 1940."

Remaining sections of the report include discussions of trends toward motor carrier integration, the Ex Parte 148 rate increase; cooperative arrangements with OPA for the administration of those provisions of the Emergency Price Control Act which cover charges for transportation services performed by carriers other than common carriers; the pending general class rate and classification investigation; and the revision of the rules of practice effected during the year under review. Then come the usual separate accounts of the work of the commission's various bureaus.

Big Money in Land Grant Discount

(*Continued from page 163*)

own boats. In developing common carrier services the Federal Barge Lines have been forced to emphasize flexibility and adaptability in both equipment and operating methods. Private and contract carriers usually have much more specialized equipment, and their operations are less complex. It has not yet been demonstrated that a complete common carrier service, such as the Inland Waterways Corporation is required to perform, is feasible on a full cost private enterprise basis. The slight extra public aid involved in operation of the Federal Barge Lines permits a much wider diffusion of waterway benefits than would otherwise be possible."

The exhibit relating to the New York State Barge Canal shows that in 1939 public aid there amounted to 9.8 mills per ton-mile or $2.05 per ton. Other exhibits show 1940 figures as follows: Ohio, 2.4 mills per ton-mile; Monongahela, nine-tenths of a mill per ton-mile; Allegheny, 2.23 cents per ton-mile; Kanawha, 3.8 mills per ton-mile; Warrior, 2.9 mills per ton-mile.

What TVA Navigation Costs the Taxpayers

The exhibit on the Tennessee river points out how the navigation phase is tied up with other Tennessee Valley Authority projects, and suggests that "no useful purpose would be served" in computing public aid on the Tennessee during the period of construction of the nine-foot waterway by TVA. "The most significant showing that can be made prior to the completion of the waterway," it adds, "is an estimated measure of public aid based on estimated costs of the completed waterway and on prospective traffic that may be expected to develop after the improvement is completed." The "prospective public aid" is shown in a table on the basis of TVA allocations and on the "direct cost basis of allocation." The former gives a figure of 9.1 mills per ton-mile, provided coal traffic originates as anticipated by TVA; without the coal the figure is 1.63 cents per ton-mile. The direct-cost basis produces a figure of 3.9 mills with the coal traffic and, 6.9 mills without it. Generally, the exhibit suggests that "economically the place of navigation in the unified development program for the Tennessee Valley is, at best, that of a by-product of the electric power development."

"People seldom read a book which is given to them; and few are given. The way to spread a work is to sell it at a low price. No man will send to buy a thing that costs even sixpence, without an intention to read it."—Dr. Samuel Johnson.

Communications . . .

Likes Our Editorials

ERIE, PA.

TO THE EDITOR:

Even in these strenuous times I cannot help but write and express my delight at your article "Railways and Post-War Planning," and your editorial entitled "Shall the Railways Be Sabotaged?". As part of my job I review many trade papers and want you to know that these two articles are gems of wisdom that, in my opinion, have not been duplicated.

GUY W. WILSON,
Manager, Transportation Department,
General Electric Company

Investors Unduly Pessimistic

NEW YORK.

TO THE EDITOR:

The feeling of the investing public seems to be that as soon as the war is over the railroads are destined for the scrap heap. Railroad officers by their silence seem to give accord to this opinion. The great industrialists say that there will be a big increase of business after the war. If they are right, the railroads will also have good business—though perhaps not as large as now.

Why don't you persuade some big railroad man to make a speech, *well advertised*, explaining why investors need not be so pessimistic? Railroad credit certainly needs better understanding by investors of what the railroad outlook really is.

INVESTOR

Stop Waste in Scrap Saving

MONTELLO, NEVADA.

TO THE EDITOR:

The effectiveness of scrap saving, safety, accident prevention, and other campaigns conducted by the railroads amongst their employees is lessened when the mass of placards, bulletins, circulars and other literature on the subject is so great that the mere repetition of propaganda lessens the employees' interest to the point where he eventually reads none of the material.

Many circulars and bulletins are now issued weekly to employees on material saving; I have heard many an employee comment on the fact that the railroads really cannot be serious on the subject, otherwise they could effect a material saving of paper through the elimination of most of the printed and mimeographed material.

It would appear that personal supervision and the issuance of a minimum of printed or mimeographed instructions would result in greater accomplishments and the savings of many a ton of paper.

HUGH F. O'NEIL.

Don't Scrap Valuable Historical Museum Pieces

MADISON, N. J.

TO THE EDITOR:

I have read, with extreme regret, in *Railway Age* of the scrapping of the old M. L. & T. locomotive "Sabine," and of the same treatment recently of the Southern Railway historical exhibit at Lexington, Ky. These acts have reduced the comparatively small collection of railroad relics extant on our railroads; and as a great admirer of our railroad industry, and its history, I sincerely hope that there will be no further scrapping of such material, and that what is left, be carefully preserved.

While it is true that all unnecessary material should be converted to scrap, and that would include railroad relics that had no historical value; it does not seem likely that at this time we should destroy our museum pieces of railroad history. To date I have not heard that the Smithsonian Institute or the Dearborn Museum have contributed any of their railroad memorabilia—and I hope that they don't.

Thinking that the need for scrap would be even more acute in England, than here at the present time, I wrote to the British Information Services in New York, to find out if any railroad relics had been removed from the great South Kensington Science Museum, to be added to the scrap pile. Their reply which follows, dated December 18, should be of interest to anyone who has even a spark of interest in the preservation of things having historical value:

"Your enquiry of December 11, on the possible handing-over of historical railway relics for scrap has been handed to us. So far there has been no mention of such necessity facing the South Kensington Science Museum, or other similar institutions, although of course there are various instances of famous relics having been surrendered—such as old wrecks, and some of the old cannons on Tower Hill. But in the latter case, care has been taken to preserve the oldest and most interesting guns, while the cannons along the Embankment, although earmarked for salvage, are to be withheld as long as possible. In one town a factory which had been turned into a museum has been reconverted to its original purpose." (Signed) *J. A. W. Bennett, Information Division.*

Many of us hope that even if our busy railroad executives have no personal interest in railroad history, or relics, they will have the perspicacity to realize the public relations value of such material, and how beneficial it will prove in whipping up public interest in railroad transportation, when the war is ended. Most of the boys and young men who were railroad-minded, are now air-minded, and will have to be won over again, to the railroad. It is good business "In time of War to prepare for Peace."

THOMAS T. TABER
President, Railroadians of America.

Why "Planning" and Overcentralization Are National Dangers

"Planning and a false precision have been driven so far in Italy as well as in Germany that a breakdown of one minute cog in the overcentralized and overorganized machinery of government and business causes the most far-reaching disturbances. The complete abolition of individual decision and discretion on the part of subordinates has made them unable to do anything at all on their own initiative. This has been strikingly illustrated several times in the German railroad organization.

"Minor divergences from schedule which formerly would have been ironed out without trouble by local officials, have led to long tie-ups of whole districts, as new orders had to be obtained from some central office far from the scene. As long as the system works on schedule, it is a marvel fit to gladden the heart of any efficiency expert; but once there is the slightest disturbance, everything is thrown out of gear."

—From "The End of Economic Man," by Peter F. Drucker. Published by John Day, N. Y.

Railroads-in-War News

Christmas Travel Curb Was Effective

Praising public co-operation Eastman says it's needed for the duration

The total volume of Christmas holiday passenger traffic on the railroads in 1942 generally exceeded that of the same period in 1941, the Office of Defense Transportation has announced, though it apparently fell below that of the last Labor Day week-end. Heavy furlough travel was mainly responsible for the increase, it was said, and reports from several roads indicated that civilian travel was substantially below normal and less than was expected.

This announcement was based on first reports from 18 railroads and the Pullman Company. Without exception, the railroads were able to accommodate all service men on furlough, these reports indicated, and in general the same statement applied to civilian traffic, though some trains were loaded beyond seating capacity. One railroad reported that in three instances during the holiday period overcrowding forced civilian passengers to wait for later trains.

Traffic officers of railroads and bus operators in all parts of the country have informed the ODT that efforts to discourage non-essential civilian travel were widely effective, it was said, and ODT Director Joseph B. Eastman, in commenting on these reports, praised the public for its co-operation in easing the strain on passenger carriers at a particularly difficult time, assuring transportation for men in uniform.

Christmas rail travel was predominantly coach travel, the ODT pointed out, and most railroads reported that all available coach equipment was in use. On the other hand, Pullman travel was less than in the 1941 Christmas holiday season, and not much above that of the pre-holiday period. Very few extra Pullman cars were needed in territory normally requiring hundreds of extra cars to handle holiday traffic.

The ODT indicated that a cross-section of reports from bus lines showed Christmas holiday travel by bus was below expectations and below the level of previous holidays. While short-haul traffic increased, long-haul traffic did not, but in many instances decreased from former peak periods. There was a substantial reduction in the number of extra buses operated, yet the holiday traffic was handled with less difficulty than in previous years, and apparently without serious congestion at any point, the ODT says.

Several railroads reported that the "Don't Travel" campaign of the ODT and the railroads influenced many civilians taking holiday trips to leave well in advance of the peak travel days, thus spreading the load of holiday traffic over a longer period. The extent of public co-operation was evident, according to railroad reports to ODT, not only in the reduction in civilian travel, but in the absence of complaints over crowded conditions on the part of those who did travel. One passenger traffic manager informed the ODT that many civilian passengers apologized for traveling during the holiday period and offered explanations of the necessity for their trips.

Mr. Eastman, in referring to the response of the public to the campaign against non-essential travel, added, "I must remind the traveling public that their co-operation in avoiding unnecessary trips will be needed for the duration. Military travel and necessary business travel will grow heavier as the war continues. It will thus be more necessary than ever for the public to assist the carriers to perform that preferential service by continuing voluntarily to avoid at all times any travel for which there is not a real need."

Canada's Minimum Loading Order

Canada's minimum carload order, T.C.04F (by the Transport Controller—an office in some respects comparable to the ODT in the U. S.) becomes effective January 18. Thereafter no rail carrier is to accept for transportation at any point of origin in Canada (except Yukon Territory) any car not loaded to its "maximum capacity," as defined in the order.

Such capacity is defined as the stenciled capacity, not the load limit, and an 80,000-lb. load is sufficient for a car stenciled between 80,000 and 100,000 lb. and 100,000 is sufficient for a car stenciled 100,000 lb. or over. Lighter loads are permissible for bulky commodities, provided they are loaded to maximum practical cubical capacity. Variations from the order are allowed under permit from the Transport Controller, or from a railway superintendent, who may make exceptions because of unusual circumstances or to reduce car detention.

Government shipments for any of the Allied nations are exempt—also cars stopping-off to complete loads under tariff provisions. Exceptions are also permitted in shipments to ports, to conform to loading requirements of vessels. Other provisions provide for multiple loading, "order notify" shipments, freight likely to damage car, and consignments to non-agency stations.

Another order, T.C.O.F.-1, lists 74 commodities for which special loading minima are established.

Bad Weather Hits Tank Car Movement

Director Byrnes and ODT take new steps to increase oil deliveries to the East

Government agencies concerned with the East Coast oil situation and individuals in that territory affected by the critical shortage of petroleum products for civilian use have focused close attention on the part played by the railroads in the movement of oil into that area. The latest available figures for tank car deliveries in that region show no improvement in the amount of oil brought in by rail, but steps taken by Economic Stabilization Director Byrnes and the Office of Defense Transportation are expected to result in an increase in the daily average.

The meeting in Washington December 29, called by Director Byrnes to afford administrators of the government agencies and presidents of railroads involved in the oil movement to the Atlantic seaboard an opportunity to discuss plans for increasing deliveries by rail, was reported in *Railway Age* last week. One result of this conference was a decision to use box cars to supplement the movement in tank cars. The number of box cars to be involved will depend entirely on the supply of materials released so they can be used to handle petroleum, it was said. Other materials will be released to increase unloading facilities, Mr. Byrnes indicated.

To the extent that metal drums now in the hands of the armed services are made available for the purpose, they will be handled in box cars in one move to add to the oil movement by rail. It was stated that an undetermined number of cars will be fitted with containers made of canvas and synthetic rubber, such as the mareng cell described in *Railway Age* of August 22, 1942, page 313, if the materials are released for such use.

The railroad presidents who attended the conference in Washington also discussed the railroads' part in the oil movement with President Roosevelt. At his press conference the same day the President said that the railroads have done an awfully good job, but he expressed his hope that they could do still better.

Announcements from the Office of Defense Transportation indicated that rescheduling and re-routing of symbol trains in the petroleum movement is continuing in an effort to handle a greater proportion of both loaded and empty tank cars in such trains. On December 29 all tank cars engaged in the petroleum traffic to East Coast were "frozen" in that service

(*Continued on page 172*)

Manpower Shortage Disturbs Eastman

Effect on transportation will grow much more serious, he warns industry

A "wave of fear" has been generated throughout the country recently, especially among truck operators and shippers, said Joseph B. Eastman, director of the Office of Defense Transportation, that the ODT "is about to set arbitrary restrictions on the length of truck hauls." Speaking before a meeting of the Chicago Association of Commerce in that city on January 6, Mr. Eastman explained the origin of this alarm.

There are long-haul truck operations serving a vital purpose in the war effort, he remarked, and there are also opportunities in long-haul service where utilization of a railroad line would release many trucks, just as utilization of trucks for short hauls could release many freight cars. The problem is "full of complications," he said, "but we have felt it our duty to study it. . . . In that study a proposal was put in definite form to serve as a target for discussion, and it is that proposal which has caused all the alarm. No recommendation that I adopt that proposal has been made, I have not yet read it, and the views of all interested parties are being obtained at length. You may be sure that I shall not act without careful consideration of those views."

Mr. Eastman gave his audience a general picture of the responsibilities of the nation's transportation system under wartime conditions, and appealed for wider public understanding of what must be done to meet these responsibilities. Anyone who thinks all the transportation required to wage war successfully in remote parts of the globe can be provided "without great changes in our normal way of living and doing business is not in his right mind," the speaker asserted.

Referring to the acomplishments of the railroads, in co-operation with the petroleum industry, in increasing the daily all-rail movement of oil to the Atlantic seaboard from "a trickle" to a volume of more than 750,000 barrels a day, the ODT director mentioned this as one case, but not the only one, "where the exigencies of war have disrupted our transportation service, thrown a wholly new and tremendous load upon the railroads for which they were not organized or adequately equipped, and brought hardships to a large part of our population which the railroads, notwithstanding what I regard as a remarkable performance, have been unable wholly to relieve."

In speaking of the lack of new equipment to meet the emergency, Mr. Eastman suggested two "cures" for the situation, full utilization of all the available facilities and a reduction of the amount of transportation to be performed. In addition to a shortage of materials for new equipment, he said, "we have, and will have in increasing degree, a shortage of manpower. This is already having an adverse effect on transportation, particularly transportation by motor vehicles, and it promises to have a much more serious effect as time goes on."

Analyzing the year's carloading figures, he pointed to a danger of being misled by statistics. Some business men, Mr. Eastman said, feel that the slight drop in carloadings reported currently in comparison with the previous year indicates that the railroads "are in a comfortable position." The fact is, on the contrary, he asserted, that the railroads "are not on easy street," but have very little reserve strength left. Acknowledging the co-operation industry has given in keeping freight cars moving, he said "there is still need and room for improvement. The job will grow harder, as the manpower shortage makes it difficult to get good men to load and unload the cars, and I suspect that the cost will increase."

Among ways in which the speaker appealed to industry to do still more to reduce its demands for transportation were spreading seasonal traffic more evenly, especially coal traffic, purchasing closer to the point of consumption to reduce cross-hauling, and, in the local transit field, staggering working hours.

The results of efforts so far made to induce industries to eliminate much cross or excessive hauling of commodities have, with certain exceptions, been "disappointing," Mr. Eastman said. "I am told," he added, "that there is a rather widespread feeling that there is no sufficient need for such a disturbance of distribution, and a suspicion, particularly on the part of the industries which have nationally advertised products, that there is some ulterior purpose to accomplish, under cover of war necessity, some radical and permanent change in commercial and distribution practices." Those who hold such opinions, the speaker remarked, "do not realize the impact on transportation which will come from the full development of the war program plus the manpower shortage."

After reviewing the current problems facing truck and railroad passenger operations, Mr. Eastman said, "plainly there is much trouble ahead, and some of it is already here." He again declared his aversion to travel rationing in any form, and repeated his appeal to industry to avoid holding conventions and group meetings which involve much travel. "Adequate and efficient transportation of both property and persons is one of the prime war necessities," he pointed out, and the performance of all transportation agencies so far will have to be surpassed through "the most intensive effort and co-operation on the part of all concerned."

Car Materials Price Control

The termination date of the Office of Price Administration's Maximum Price Regulation No. 174, controlling the sale or interchange of surplus freight car materials between car builders and railroads, has been extended to June 30, 1943, according to an OPA announcement January 2. This action was taken, it was said, because some surplus materials are still available in the industry, and interchange will be carried on yet for some time.

No Wartime Strikes Expected by N.M.B.

Report expresses confidence that labor disputes won't tie up rail service

Making its annual report for the fiscal year ended June 30, 1942, the National Mediation Board this week expressed to Congress its "full confidence that the war effort will not be hampered by interruption or threatened interruptions due to labor disputes on the railroads or airlines." The Railway Labor Act, it said, "is serving effectively with our nation at war," just as it served "for more than 16 years as an effective instrument for the orderly settlement of railway labor disputes in peacetime."

The report does record "two instances in which strikes occurred" during the year under review; but it compares that showing with "thousands of disputes between men and management settled peaceably" under the act at a time when "strikes and threatened strikes in various industries" are causing "considerable national concern." The two strikes were on the Toledo, Peoria & Western where the government took over, and that involving Railway Express Agency employees at Detroit.

Meanwhile the Board has had plenty of business, and the increase in the backlog of unsettled cases at the year's end suggests, as the report put it, "the necessity of enlarging the staff of mediators as well as a restoration to the Board of its full active membership." The latter is a reference to the loss to the Board of the services of one of its three members—Otto S. Beyer, to whom the Board a year ago granted an indefinite leave of absence so that he might accept full-time service in his present role of director of the Office of Defense Transportations Division of Transport Personnel. Railroad labor leaders are understood to have had the same idea when they called on President Roosevelt last September to ask him to appoint another member to N. M. B. in place of Mr. Beyer, whose present term expires February 1, 1944.

With respect to the T. P. & W. dispute, the report makes no reference to N. M. B.'s failure to certify the case to the President for the appointment of an emergency board; but says that government operation "came only as a final resort after the management declined repeated requests of high government officials including the President, to submit the dispute to arbitration, which the employees agreed to do." In commenting on the Detroit strike of Express Agency employees, where an emergency board was appointed, the Board says that "the most prominent fact demonstrated by this unfortunate dispute is the inadequacy of the authority of the National Mediation Board under the Railway Labor Act to deal with jurisdictional disputes between labor unions." It goes on to cite a passage wherein the Detroit emergency board suggested that in such cases N. M. B. should have power "to intervene just as it now does in direct disputes between employer and employees."

In addition to these two actual strikes there were in the fiscal year 15 disputes "in which there was a definite threat to strike." These included "Cases A-1000 and A-1001," the nationwide wage proceedings of 1941 which were finally compromised with the December, 1941, mediation settlement effected by the recalled emergency board whose original recommendations had been rejected by the labor organizations.

But before getting into these specific matters, the Board had told more than is indicated at the outset of its satisfaction with Railway Labor Act procedures and the wartime performance of railroad personnel. It asserted that the Railway Labor Act "is the most advanced piece of legislation in the nation today for the peaceful settlement of industrial disputes." The only wartime supplement to the act, it added, has been President Roosevelt's executive order setting up the National Railway Labor panel from which the labor organizations can get emergency boards appointed without taking a strike vote and setting a date for a walkout. Performance of railroads and airlines in handling wartime traffic is praised in the report as a "modern transportation miracle," wrought only because the managements and operating personnel subordinated all other objectives to the main task.

In its own work, the Board found fiscal 1942 the largest year in its history, which has been true of each of the past three successive years—indicating "the larger number of labor disputes during periods of increased industrial activity as well as a tendency on the part of both the carriers and their employees to utilize to a greater extent the provisions of the Railway Labor Act in effecting settlements of their differences." The number of new cases docketed in fiscal 1942 totaled 524, an increase of 36 per cent over the previous year. Although a record number of cases—370—were disposed of in 1941-42, the year nevertheless closed with a backlog of 154 cases pending, the greatest carry-over since fiscal 1936 when 185 were left. Cases pending at the end of fiscal 1941 totaled 101.

Discussing disputes regarding representation of employees, the Board viewed "with some concern" the tendency to divide "established and well recognized crafts or classes" of employees. "To permit such a division," it says, "would give rise to more divisions and subdivisions. Once the bars are down, there is no logical stopping place and such a course would ultimately defeat real collective bargaining as contemplated by the law. On the other hand, stabilization of well recognized crafts or classes as they have been generally established on carriers under the act by the employees and managements after long years of negotiation will also tend to stabilize collective bargaining relationships."

Appraising the effects of the 1934 amendments which "made effective the right of employees to designate collective bargaining agents of their choice," the report shows how the unions, especially the shop craft organizations, have gained on the system associations. Nearly 90 per cent of the shop employees on Class I roads are now represented by "national organizations," the Board says, adding that "most of this gain has been at the expense of the system associations."

The section of the report devoted to National Railroad Adjustment Board activities shows that this Board ended the fiscal year with 6,318 cases pending—6,033 of them being before the First Division. During the year the First Division used referees to decide 445 cases, and was unable to agree upon a single referee selection. Thus N. M. B. had to make the appointments. All four divisions used referees to decide a total of 835 cases. Most of the 1941-42 referees, the report says, had not previously served. The highest total salary among the referees was that paid Thomas J. Mabry of Albuquerque, N. M., who received $5,700 for working 114 days at $50 per day.

The financial statements shows that N. M. B. received total 1941-42 appropriations of $270,303 and spent $237,791. Adjustment Board appropriations totaled $247,030, while its expenditures were $238,340.

WPB Appointment

The director of the War Production Board Division of Stockpiling and Transportation, Dr. W. Y. Elliott, has announced the appointment of a consultant on Great Lakes operations. This place will be held by A. B. Cozzens of Oglebay, Norton & Company of Cleveland, Ohio, who will continue his connection with that firm while advising the WPB division on the establishment of transportation of quotas and priorities on commodities shipped by lake vessels. Under the orders establishing the government war agencies, this WPB division instructs the Office of Defense Transportation to put into effect such quotas and priorities as it considers essential.

Barriger Leaves ODT to Become Stock Yards Executive

John W. Barriger, III, has resigned as associate director of the Division of Railway Transport, Office of Defense Transportation, and federal manager of the Toledo, Peoria & Western, to become vice-president of the Union Stock Yard & Transit Company, Chicago. He will be succeeded on the T. P. & W. by Holly Stover, special assistant to Director V. V. Boatner of the Division of Railway Transport; but no announcement was made as to his successor in the associate directorship of the Division.

Mr. Barriger, whose resignation became effective December 31, had been with ODT since last February; and he had been federal manager of the T. P. & W. since last March when ODT took over at the direction of the President. A photograph of Mr. Barriger, together with a sketch of his career, appeared in the *Railway Age* of February 7, 1942, page 349.

In announcing the appointment of Mr. Stover, ODT Director Eastman also announced that George Voelkner, who has been assistant federal manager of the T. P. & W., had been appointed to the new position of general manager of the road. Mr. Stover, who became associated with ODT last May, has served as director, executive representative, and vice-president of the Gulf, Mobile & Ohio, and as president of the Stover Smokeless Coal Company and of Holly Stover, Inc. Mr. Voelkner came to the T. P. & W. when ODT assumed control, having previously been assistant to the general manager of the Lehigh Valley.

Box Cars Refitted for Troop Transportation

The Pennsylvania has recently brought out new models of the reconditioned box cars on which it has been working with the idea of converting them for use in the transportation of troops. The new models, embodying changes suggested by the Army and Navy after the preliminary demonstrations, have been assembled into an experimental train consisting of a sleeping car, a kitchen car, and a recreation car.

The sleeping car provides space for 32 men in three tiers of bunks; it has portholes for windows, is heated, fireproof, and has sanitary facilities. It has been suggested that the equipment might be used for long-haul troop movements, making it up into 16-car trains consisting of 14 sleepers, and the kitchen and recreation cars. Among those who have inspected the equipment is Director Eastman of ODT who is reported to have been favorably impressed. Meanwhile, the P. R. R. is understood to be prepared to proceed with the conversion work if the idea receives the approval of the armed services.

Turney Leaves ODT; New Division Heads Appointed

Effective January 1, John R. Turney, director of the Division of Transport Conservation of the Office of Defense Transportation, resigned that position to return to private law practice. At the same time ODT Director Joseph B. Eastman announced that the division which Mr. Turney had directed would become a staff division of Review and Special Studies. Charles L. Dearing and Harold J. Drescher have been appointed director and associate director, respectively, of the new division.

Mr. Turney was vice-president of the St. Louis Southwestern in charge of law and traffic when he left railroad service in 1933 to join the staff set up in Washington by Mr. Eastman as federal co-ordinator of transportation. His appointment to the ODT was reported in *Railway Age* of January 17, 1942, page 217. At that time his position was director of the Division of Traffic Movement, but in May of that year he was appointed to the position from which he has just resigned.

In a letter to Mr. Turney accepting his resignation "with deep regret," Mr. Eastman said, "You were the creator of some of the best things we have done." In offering his resignation Mr. Turney pointed out that the work for which he joined the ODT—the organization of the Division of Traffic Movement—had been completed, and that the functions and responsibilities of the Division of Transport Conservation" "have changed radically" since it was established, so that its director should be specially qualified in research.

Mr. Dearing was a member of the staff

of the Brookings Institution from 1929 until his appointment in May, 1942, as consultant in the ODT Division of Transport Conservation. Mr. Drescher, formerly counsel to bus operating companies, was appointed at that time to the position of executive assistant to Mr. Turney.

The newly-established Division of Review and Special Studies, Mr. Eastman announced, will be available for special studies needed in formulating new programs and in evaluating established programs. In addition, it will have various duties relating to passenger automobiles and rubber conservation. Matters listed for the immediate concern of the new division include a determination of the requirements of private automobiles for rubber and repair parts, a continuing check on the supply of gasoline and rubber and on highway conditions, and an analysis of the effects of gasoline rationing on public transportation service.

Training Courses in War Traffic

Intensive job-training in transportation, handling and warehousing of war materials is being offered in two six-weeks' courses by New York University's School of Commerce, Accounts and Finance, starting January 18.

Designed for men and women seeking or already employed in war jobs, classes will meet once a week—Thursday evenings—at the Wall street division of the University. Professor Harry E. Stocker is in charge.

One course, called "Transportation of War Materials," is designed to instruct shippers and receivers of freight in methods of speed and economy under wartime conditions. Lectures will cover transportation services, routing, documentary work, rates and related subjects.

The other course, designated "Materials Handling and Warehousing," is aimed to serve men and women in industry and the armed forces—whether employed in factories, warehouses, marine terminals or military depots. Lectures will cover time-saving, money-saving methods and equipment—largely through the use of photographs, drawings and some data not heretofore available.

There are no requirements of previous academic training in these non-credit courses, for which registration is now open.

Authorization Required To Scrap Old Locomotives

The War Production Board by an amendment to its Limitation Order L-97 has established "regulatory control" over "the repair, sale, dismantling, scrapping or other disposition of surplus used or idle" locomotives, it was announced January 2. This order, it was said, paves the way for the pooling of surplus or idle used locomotives under regulations to be announced later by the Office of Defense Transportation.

In its original form Order L-97 controlled production and distribution of new locomotives. It was pointed out that steadily increasing munitions and ordnance production creates a condition in which maximum use of all available motive power is essential, and repair of used equipment is expected to contribute to this end by adding to the supply of serviceable locomotives, at least for industrial operations, so releasing new equipment for purposes where they are most useful.

The amended order provides that a used locomotive cannot be scrapped or dismantled until specific authority is obtained from the WPB Director General for Operations. An application on Form PD-747 is necessary to get such authorization. The limitation order is administered by the WPB Transportation Equipment Division, but it was emphasized that that division will not control transfers of locomotives among railroads, which remains an ODT responsibility.

Bad Weather Hits Tank Car Movement

(*Continued from page 169*)

by General Assignment Order ODT 7, Revised-1, issued by A. V. Bourque, chief of the Section of Tank Car Service of the ODT Division of Petroleum and Other Liquid Transport.

Approximately half of the 143,000 tank cars in the country are affected by this order, the ODT announcement stated. In order to maintain the capacity of the fleet serving the Atlantic coast at maximum gallonage—consistent with efficient handling by carriers, shippers and receivers—it is provided that cars now involved in the East Coast service can be withdrawn only if replaced immediately with cars of at least equal capacity. All cars used in this long-haul movement must have a capacity of 7,000 gallons or over, according to ODT policy, and it planned to replace the few small cars still in this service with larger cars as rapidly as possible. On December 1 the total capacity of tank cars handling oil to the northeastern states was said to be more than 58,500 gallons greater than on November 1, although fewer cars were in the service, the ODT announced.

A statement by ODT Director Eastman accompanying the "freeze" order indicated that at that time 85 per cent of the East Coast petroleum traffic was moving in symbol trains, as compared with about 65 per cent on December 12. The new through routes designated by the ODT will speed the handling of symbol trains, it was predicted.

Current reports of receipts of petroleum products by tank car in the Eastern territory indicated that none of the measures so far taken have overcome the effects of bad weather and tank car breakdowns in retarding improvement in the quantities delivered. Use of the new pipe line from the southwestern oil fields to Norris City, Ill., which has been expected to swell the daily flow of oil into the East by materially shortening the tank car haul, will be delayed at least three weeks as a result of high water on the Mississippi River last week, Petroleum Administrator Ickes has announced. About 600 feet of the pipe crossing that river was washed away, and replacement was delayed both by high water and by the necessity of diverting to the Mississippi crossing pipe intended for river crossings in Indiana and Ohio of the pipe line now under construction to serve the Philadelphia and New York refinery area.

Daily tank car shipments of petroleum products into the East Coast area in the week ending December 19 averaged 744,023 barrels, a slight increase over the preceding week, PAW announcements indicated. In the week ending December 26, however, the daily average was only 700,827 barrels, and Administrator Ickes repeated his warnings that there is little prospect of improvement in the amount of oil available for civilian use for some time. Reserve stocks of fuel oil and gasoline were being drawn on to meet current demands, he said.

Closing of the New York barge canal and discontinuance of navigation on the Great Lakes, the result of cold weather, threw a greater burden on the railroads, these announcements pointed out. It was estimated, however, that improvements in the capacity of reversed pipe lines supplying some points in the affected territory increased the movement by pipe line about 8,000 barrels a day, and completion of an emergency pipe line from Tiffin, Ohio, to Akron was expected to add another 15,000 barrels a day to the movement, at the same time releasing tank cars for petroleum service elsewhere.

In the week ending December 26 tank car deliveries to New England averaged 717 cars daily, as compared with 654 the previous week, the Petroleum Administrator's office announced. This movement averaged 811 cars a day in the week ending December 12, however, and it was pointed out that severe weather conditions had hampered the movement of oil trains on key routes to the East and retarded unloading operations at eastern terminals. The effect of floods in many areas also was reflected in the decreases reported, these announcements added.

In his capacity as Solid Fuels Co-ordinator for War, Mr. Ickes indicated that all-rail coal shipments into New England were showing an encouraging trend, with the figures for the week ending December 26 the highest for a similar period in over two months. All-rail coal shipments into that area between January 1, 1942, and December 26 totaled 328,727 cars, he said, an increase of 89,955 cars over the same period of 1941.

Mr. Ickes and other government officers concerned with the petroleum situation appeared on January 4 before a Senate subcommittee investigating rationing programs and eastern oil supplies, the so-called Maloney committee. In the course of his testimony the Petroleum Administrator referred to the effects present high operating speeds have had on tank cars that average 17 years in age, and expressed his opinion that the peak of the movement of oil by tank cars has been passed because of the number that are breaking down under the strain.

Among other witnesses before this committee were Rubber Administrator Jeffers and ODT Director Eastman. Mr. Eastman repeated his expression of hope that the railroads would be able to move an

average of 900,000 barrels of oil a day to the East Coast, and referred to the large expenditures the railroads have made and are still making to speed tank car movements, apart from expenditures for equipment. He also explained to the committee the ODT program for constructing tank trucks to relieve tank cars now engaged in short-haul petroleum movements.

New Executive Order Broadens Eastman's Powers

More inclusive and specific powers are vested in the Office of Defense Transportation by an executive order signed January 4 by President Roosevelt, the chief purpose of which was said to be to clarify the ODT's authority over local transit operations, especially those arranged to serve war plants.

The new order directs the ODT, in addition to its functions and powers under previous executive orders, to "advise and assist" federal and local government agencies in providing for the movement of personnel to and from war plants, giving due consideration to other transportation needs of the area concerned; to review, and if necessary to re-negotiate, arrangements already made or to be made hereafter by federal departments or agencies (including the Army and Navy) for such traffic and for equipment so employed; and to "advise" the War Production Board on allocations of new local passenger equipment and transfers of used equipment. The use of equipment for military maneuvers or "special operations necessary for the prosecution of the war" is exempted from the terms of the order.

Another section of the order redefines the scope of the ODT's authority to include "all domestic transportation within the territories and possessions of the United States."

The ODT director is named in the order as the "head of an agency which may initiate action for the requisitioning of property," under the general wartime powers of the President.

ODT Announces More Exceptions to General Order 18

Special loading requirements for various commodities excepted from the general regulations for maximum loading of cars embodied in General Order ODT 18, Revised, were announced on January 4, the effective date, by the Office of Defense Transportation. Under the general order, as outlined in *Railway Age* of October 17, 1942, page 618, railroads are prohibited from accepting carload shipments, with certain exceptions, which do not fill the car either to its marked weight capacity or its visible capacity. The current list of special requirements, which revises and adds other commodities to the exceptions already reported, is embraced in Special Direction ODT 18, Revised-5.

Weights to which cars must be loaded, or specific directions as to the manner of loading to obtain maximum use of car capacity, are prescribed in the special direction for 18 additional commodities or groups of commodities. These include clay products, containers, ceramics, chemicals, gas cylinders, manufactured fertilizers, floor coverings, foundry supplies, dried fruit, glassware, gypsum products, hides, cabbage, lard, tomatoes, paints (including varnishes and lacquers), paper and paper products, and newsprint.

A minimum load of 60,000 pounds is required for shipments of manufactured fertilizers. Among requirements for other commodities added to the list of exceptions the minimum load is set at 70,000 pounds for dried fruit; 45,000 pounds for cabbage; 35,000 pounds for lard in prints or 45,000 pounds in tubs; 50,000 pounds for green salted calf skins; and 70,000 for mixed carloads of gypsum products. Newsprint rolls of 60 inches or greater width, loaded on end, must occupy the entire floor space of the car. Paints and similar products must be loaded to a minimum weight of 60,000 pounds, but up to 30,000 pounds may consist of raw materials entering into such products.

Revisions of former special loading requirements have been made in the case of a number of commodities, including coal in box cars, grain products, glass, dry ice, lime, limestone, apples, butter, carrots, oysters, early potatoes and mixed carloads of certain poultry and dairy products.

Under the new specifications coal shipped in closed cars must be loaded to a minimum weight of not less than 70 per cent of the marked capacity if that figure is 100,000 pounds or more, and to not less than 80 per cent of the marked capacity where it is less than 100,000 pounds. The total weight of straight or mixed carload shipments of listed grain products must be at least 60,000 pounds.

Oysters, previously required to be loaded to tariff minimum weight or more, are required to be loaded to a minimum of 12,500 pounds. For early potatoes, now separately classified, the minimum load is set at 36,000 pounds as compared with 42,000 pounds for other potatoes. Lime in containers is to be loaded to a minimum of 70,000 pounds. The minimum carload for apples in boxes is set at 39,900 pounds, while for apples in bulk, in bushel baskets or smaller, or in open boxes, the minimum is 31,500 pounds. The minimum carload shipment of bananas is prescribed as 23,000 pounds.

Materials and Prices

Following is a digest of orders and notices of interest to railroads, issued by the War Production Board and the Office of Price Administration since December 8.

Carbide—General Preference Order M-190, effective January 1, placed calcium carbide under allocation control. Deliveries are prohibited without specific authorization except for monthly shipments of 10 tons or less. Calcium carbide delivered for resale for house or mine lighting is als exempt from the requirements. The regular chemicals application forms, PD-600 and PD-601, are to be used in requesting authorization for receipt or delivery of calcium carbide.

Concrete buildings—National emergency specifications for the design of reinforced concrete buildings will become effective January 1, 1943, instead of December 5, 1942, it was announced on December 22.

Construction—Construction Conservation Order L-41-b, providing for certain types of construction necessary to the conversion or substitution of heating equipment to permit the use of fuel other than oil, electricity and gas, extends to January, 1944, the time when work may be undertaken without specific authorization. The materials include insulation materials, air cell pipe coverings, weatherstripping and storm windows and doors. No rubber or metal, other than fastenings, may be used in such installations or applications.

Cutting tools—General Preference Order E-2-b, as amended December 12, permits purchasers of cutting tools to accept deliveries of the producers' minimum practicable manufacturing quantity. Where the quantity is less than three sets of special tools, the purchase may be extended to this amount. In no event, however, can the purchaser obtain more than a 90-day inventory.

Electric railways—Preference Rating Order P-88, as amended December 23, broadens the definition of the term "railroad" to include urban electric transit systems. A rating of A-1-j is authorized for delivery of certain materials essential for repair and maintenance of track, structures, signal and communication systems, cars, trolley buses and other operating equipment. Use of this rating will be controlled by quarterly inventory reports to be submitted on Form PD-351. Form PD-351 is prescribed for use also in obtaining various types of raw materials, such as steel bars and other semi-finished metal products. Ratings assigned for this class of orders would be determined by the rating pattern prevailing at the moment under any applicable orders. For emergency repairs, a rating of A-1-a may be used upon specific approval by the Director General for Operations. Street railway systems and trolley bus lines are exempted from the filing of Form PD-352, which must be submitted by steam carriers under the terms of the order.

Handsaws—Limitation Order L-157, as amended December 21, lists the simplified practices affecting types, sizes, grades and models of handsaws prescribed for the domestic market in Schedule III. The cheaper grades of handsaws will gradually disappear. The only handsaws that may be produced for the domestic market after January 1 will be the mechanics' grades. The amendment further reduces the number of saws that may be produced under Tables 2, 3, 4 and 5 of Appendix A to 20 per cent of the dollar sales volume of 1941. The limitation on total annual domestic production will not include saws produced for delivery to, or for the account of, the Army, Navy and Maritime Commission or the War Shipping Administration.

Iron and steel products—Conservation Order M-126, as amended December 26, enumerates several hundred articles of iron and steel in List A with dates after which no one may deliver or accept delivery of any iron or steel which will be used to make the article, and 30 days after which no one may process iron or steel for the item in an aggregate weight greater than 75 per cent of the average monthly weight of all metals put into process during 1941 in making the item and parts, and 60 days after which no one may assemble iron or steel for the item. For any item on List A without a governing date, no one may deliver or accept delivery of iron or steel to make, process or assemble iron or steel for the articles listed. In addition, the order enumerates in List S articles which may not be made of stainless steel in part or whole after specified governing dates. List A consists chiefly of non-essential articles common to the civilian trade but includes air conditioning systems; manhole covers; culverts, including corrugated pipe and corrugated plates for pipe and arches for culverts; door hardware; fence posts, except on A-2 or higher; gates for fences; gutters and spouting for dwellings two stories or less in height; highway railroad flasher lights, except lamp bulbs; highway guard rail, wire, strip and posts (maintenance and repair excepted); hose reels, except fire fighting equipment and industrial uses in direct fire hazard areas; oil pumps, except barrel pumps; railroad rail joint angle bars over 24 in. in length (maintenance and repair excepted), except for replacement on used rails; tank towers under 50 ft. in height; and

wheelbarrows. List S includes hose clamps, lanterns and lamps and valve handles.

Priorities—Effective January 1, the publication Priorities, in its complete form, will be published on the first of each month only. Publication of a complete issue on the 16th of the month, followed by a supplement on the first, will be discontinued, it was announced on December 19. The bulletin will be available at 20 cents a copy by writing to the Government Printing Office, Washington, D. C.

Rubber—Rubber control orders, M-15-b and M-15-b-1, as revised, effective January 1, change numerous specifications for the manufacture of 31 classes of products in Order M-15-b-1; while changes in M-15-b are designed to reduce unnecessary paper work, to clarify certain definitions and to correct other minor points. The revisions permit the importation from Canada of rubber products manufactured in Canada, in the United States or in the British Isles. The monthly report form, PD-322, is changed to Form PD-649. The specifications cover compounds for insulating wire and cable and insulating tape, belt splicing and repair material, conveyor and elevator belting and pulley lagging, V-belts, air drill hose, flexible couplings, paint spray hose, railroad hose of all types, rubber valves and valve parts, rubber sheet packings, gaskets and washers for hose, fire and mill hose, transmission belts, automotive parts, storage battery parts, car heater hose and garden hose.

Rush orders—Manufacturers and others who must place rush orders for scarce materials by telegraph or telephone are provided with simple methods for applying the appropriate reference ratings by an amendment to Priorities Regulation No. 3, according to an announcement on December 28. Procedures authorized for telegraphic orders call only for the following certification in the body of the telegram, "Ratings indicated are certified pursuant to Priorities Regulation No. 3." The requirements of Priorities Regulation No. 7 for manual signature or authorization will be satisfied in such cases if the copy of the telegraphic order retained by the sender is signed or authorized in the manner set forth in that regulation. In the case of a telephoned purchase order requiring shipment within seven days, the person placing the order—provided he is authorized to do so—may apply or extend a preference rating to which he is entitled by stating to his supplier that the rating is certified pursuant to the regulation. Written confirmation of the order bearing a certification of the preference rating applied orally must then be furnished the supplier within seven days. No rating received by telephone may be extended by a supplier until he has received this document. In case of failure to receive written certification within the seven day period provided by the regulation, a supplier may not accept any other order from his customer or deliver any additional material to him until the written certification is received. Suppliers are required to report to the WPB Compliance Division on, or before the 15th of each month, any telephone orders to which ratings were applied, which the person placing the order did not confirm with the written certification when due. The amendment also restricts the amount of maintenance, repair and operating material to which preference ratings may be applied by a firm covered by a P order (other than P-100), as well as by the terms of the regulation to the limit specified on the P order.

Scrap—Order M-9-b, as revised December 26, places copper-clad steel scrap under full allocation control and limits processors and manufacturers who generate any type of copper scrap to inventories of one ton. The previous limit was five tons. Reports are now required of any person accumulating 500 lb. of generated or obsolescent scrap in any one month.

Water heaters—Limitation Order L-185, dealing with gas fired and oil fired water heaters, and Limitation Order L-199, dealing with metal tank supports and tanks, issued December 21, restrict the manufacture of gas fired and oil burning water heaters next year only for use in war housing or other war projects. Production of metal tank jackets and metal tank supports is suspended and the installation of metal tank jackets is prohibited with certain minor exceptions. Civilian needs for replacements of gas fired water heaters in 1943 must come out of existing stocks. Necessary replacements may still be made for some time in the future, since inventories of finished equipment are comparatively large at present.

Used machines—General Limitation Order L-83, as interpreted December 17, explains that the term "selling price" in the regulations over the sale of a used machine includes not only the selling price of the used machine, but also the cost fo such repairing or reconditioning as is necessary to make the machine an effective instrument. The sale of a broken-down machine at a price below the limitation established by the order, followed by related repairing or reconditioning, does not place the sale beyond the scope of the Order L-83.

Welding rods—General Limitation Order L-146, limiting control of the distribution of welding rods and electrodes, was revoked December 9. When purchasers of welding rods and electrodes for maintenance and repair work find it necessary to obtain preference ratings, applications for purchases of less than $50 should be addressed to local offices of WPB. Where more than $50 worth of material is wanted, the applicant should obtain approval from the Director General for Operations in Washington.

Prices

Coal—Amendment No. 9 to Maximum Price Regulation No. 112 (Pennsylvania anthracite), effective December 21, permits anthracite coal held temporarily in ground storage facilities pending final delivery to be considered "in transit" and is governed by the same regulations as anthracite delivered direct from mine or preparation plant.

Cross ties—Dollars-and-cents ceiling prices were established on December 21 for all railroad ties in the Eastern half of the United States at about 10 per cent over March, 1942, levels to bring them more nearly in line with 1942 production and selling costs.

Cross ties—Maximum Price Regulation No. 216 (railroad ties), as revised, effective December 26, bringing all railroad ties produced in the Eastern half of the United States under specific dollars-and-cents ceilings at prices approximately 10 per cent over March, 1942, levels, supplanted the price formula established September 5, 1942, by the previous regulation, which used the prices at which the railroads purchased ties during the first quarter of 1942. The measure is a companion to Maximum Price Regulation No. 284 (Western primary forest products) which established similar maximum prices for ties produced in the Western half of the nation. Under the regulation, the price for a good oak cross tie varies from $1.15 to $1.60, depending upon the area in which it is produced. The entire production area of ties has been divided into eight production zones by the regulation in order to continue the differentials in price among the various producing regions. Tie contractors are permitted to add 20 cents a cross tie and $5 a thousand bd. ft. for switch ties over the maximum prices set forth in the regulation. The revised regulation does not contain the provision allowing the 10 per cent addition for purchases by the government. Bridge ties and crossing timbers are not covered by the action, and remain subject to the General Maximum Price Regulation or other applicable regulations. Four classifications of ties are established and prices are set (Appendix A) for each class according to size and zone. Ash, hickory, sap black locust, honey locust, oak and sap black walnut are in the group specified in regulation and table of prices as class Ta. In the second or Tb group are ties produced from sap cedar, sap cypress, hemlock, sap larch, sap pine and spruce. In the third group of ties, or Tc group, are those made from beech, birch, cherry, gum and hard maple. In the Td or fourth group are sap catalpa, elm, hackberry, magnolia, soft maple, sap mulberry, poplar, sap sassafras, sycamore and white walnut. Prices for serviceable rejects, ties failing to meet specifications of the American Railway Engineering Association but which are strong enough for limited use, also are established in the price tables. Transportation additions to maximum prices may be made under circumstances explained in the regulation. Ties not specifically covered in the price tables, such as Class U and seasoned cross and switch ties, are nevertheless covered by provisions in the regulation which describe the method tie makers must use to ascertain their maximum prices. Procedure is also established for the determination of ceiling prices for switch ties sold in sets and narrow gage ties. Sellers of ties are required to keep records showing a complete description of the item sold, name and address of the buyer, date of sale and price. Buyers must keep similar records. Records must be kept for any month in which buyer or seller bought or sold 200,000 ft. bd. m. or more. All tie contractors must submit copies of their largest contract to the Lumber Branch, OPA. Contracts involved are those on which shipments were completed during the 12 months preceding September 1, 1942. They also must list their ten largest concentration yards, showing location, railroad being served and the production total for each yard during its best production month during the year prior to September 1, 1942. These reports must be filed 30 days after the effective date of the regulation.

Interpretations—Under date of October 15 and November 1, bulletins were issued by OPA containing recent interpretations of price regulations which cover interpretations of regulations over the price of new materials and also scrap. Persons desiring interpretations of regulations, schedules or orders should submit their requests in writing to OPA, preferably to the nearest field office. The interpretations of October 15 announced that where a railroad company failed to submit average price information for a particular grade of iron and steel scrap within two weeks after February 9, 1942, as required by Section 1304.14 (a) or (b), its maximum price for such grade is determined by Section 1304.14 (d), even if the failure to submit such information was inadvertent.

Lumber—Maximum Price Regulation No. 94 as revised, effective December 29, extends dollars-and-cents maximum prices to secondary species not previously under specific regulation, as well as to all Western pine imported from Canada and Mexico. The prices for the secondary species, which apply only to shipments which originate at the mill, are set at the level prevailing in October, 1941. The species include Douglas fir, hemlock, white fir, red cedar, incense cedar and Englemann spruce produced in the Western pine area. The maximum prices and the definition of primary species of Western pine—that is, ponderosa pine, Idaho white and sugar pine produced in Oregan, Washington, Idaho, California and Montana—as contained in the original price regulation are unchanged. The new regulation will not affect retail prices, which as a rule, remain subject to the General Maximum Price Regulation. Appendix D sets forth specific dollars-and-cents ceiling prices, f.o.b. mill, per thousand feet board measure of secondary species lumber in air dried or kiln dried condition. It also contains a formula for determining prices for those items of both primary and secondary species which are not covered by dollars-and-cents ceilings. In general, the formula provides for the establishment of maximum prices by applying to the item being priced the same differential which existed between the item and certain standard items in October, 1941. In recognition of the increasing demand for green or unseasoned lumber, the revised regulation contains maximum prices for lumber in this condition in both secondary and primary species. Appendix E provides that the maximum price for green lumber shall be determined by deducting 15 per cent from the air dried or kiln dried lumber ceiling. While the basic prices are set forth on an f.o.b. basis, the regulation follows the general policy of permitting sales on a basis of delivered prices, with the transportation charges which may be added to the f.o.b. mill price expressly defined. Estimated weights may be used in making transportation charges. Green estimated weights may be used in calculating transportation charges only if the moisture content is greater than 19 per cent. A new provision has been added which states that no charge may be made for trucking from a mill located away from rail facilities to a railhead, except by express permission in three special cases.

Price schedules—OPA distributed on December 31 the sixteenth of a series of pamphlets digesting interpretations of specific price schedules and regulations other than the General Maximum Price Regulation. Among others, the pamphlet contains digest of interpretations relating to Price Schedule No. 88 (petroleum and petroleum products).

GENERAL NEWS

Ann Arbor Ends Long Receivership

Road is third class I carrier restored to corporate control in 1942

Receivership proceedings of the Ann Arbor were terminated, and Norman B. Pitcairn and Frank C. Nicodemus, Jr., released as receivers, by an order entered at Toledo, Ohio, on December 31, 1942, by the United States district court for the western division of the Western district of Ohio, which directed the surrender to the company of all its properties for the resumption of operation as of January 1. The Ann Arbor is the third class I carrier to wind up its equity proceedings during 1942, the Norfolk & Southern and the Wabash having been previously restored to corporate control. The Ann Arbor went into receivership on December 4, 1931, three days after the parent company, the Wabash, and the same receivers were appointed for both companies.

Culmination of the receivership was effected without reorganization, and the lines and other properties restored to the railroad without the usual foreclosure proceedings and sale. The railroad and the receivers paid off all claims allowed against the estate, and, to the extent the indebtedness was not paid off, the company reacquired all of the indebtedness with the single exception of an issue of first mortgage bonds outstanding in the principal amount of $7,000,000. No default exists in the first mortgage, the interest of 4 per cent per annum having been paid throughout the receivership and this issue of bonds, maturing in July 1995, remain undisturbed.

All of the improvement and extension mortgage bonds, which were in default throughout the receivership, were reacquired by the company and the release and discharge of this second mortgage is expected to proceed expeditiously. In addition to the first mortgage bonds, the railroad's capitalization will consist of an issue of 5 per cent non-cumulative preferred stock of $4,000,000 and common stock of $3,250,000. Other than the fixed interest on the first mortgage bonds of $280,000 per annum, the company has rents for leased road and equipment of approximately $25,000 per annum. Fixed charges were earned 1.5 times in 1940 and 2.24 times in 1941.

At a meeting of the executive committee held in St. Louis, Mo., Norman B. Pitcairn, president of the Wabash, was elected president of the Ann Arbor. The vice-presidents elected were as follows: N. S. Brown; A. K. Atkinson, in charge of finance and accounting; G. G. Early, in charge of traffic, and G. H. Sido, in charge of operations.

A Welcome for American Railroaders in Britain

The four British railways and the London Transport Board have opened a club for officers of the U. S. Army Transport Corps, to which all railway men or other officers who prior to the war were connected with transportation in America in any capacity, are invited when in London.

The club, located at 44 Wilton Crescent, London, S. W. 1, designed to provide a common meeting ground for British and American railwaymen. Facilities for reading, writing and light refreshments have been provided.

American officers who pass through New York en route to England are invited to apply to Mr. Olive Turner, Associated British & Irish Railroads, 9 Rockefeller Plaza, New York City, for membership application form before sailing.

Club Meetings

The New England Railroad Club will hold its next meeting at the Hotel Touraine, Boston, Mass., on January 12. A. L. Sorensen, assistant to vice-president of the Association of American Railroads, will address the meeting on the subject "Railroads Were Ready."

At the annual meeting of the Transportation Club of Toronto the following officers were elected for the ensuing year: President, R. Halliday, sales manager, R. Laidlaw Lumber Co., Ltd.; first vice-president, S. O. Martin, general superintendent, Canadian National Express; second vice-president, A. Walker, general freight agent, C. P. R.; secretary, William G. Hamilton, freight claim investigator, C P. R.; treasurer, W. E. Hendershot, freight traffic managers office, C. N. R.

The thirty-third annual dinner of the Traffic Club of Newark will be held on January 28 at the Robert Treat Hotel, Newark, N. J.

The annual dinner of the Transportation Club of Atlanta will be held on January 15 at the Atlanta Athletic Club. Installation of officers elected at the December meeting will be held the same night. The newly elected officers are as follows: president, E. L. Setzer, assistant freight traffic manager, Seaboard Air Line; first vice-president, Grover E. Heyser, traffic manager, Campbell Coal Co.; second vice-president, M. L. Corbett, general agent, Illinois Central.

Hearings Ordered In Ex Parte 148

Henderson's plea to wipe out 1942 increases gets rate case reopened

Further hearings in Ex Parte No. 148—the Interstate Commerce Commission proceedings which resulted in the passenger fare and freight rate increases authorized early in 1942—have been ordered by the commission, following the filing of petitions seeking reconsideration of these increases by Price Administrator Leon Henderson, the Secretary of Agriculture, and various state agencies and industrial organizations.

The hearings are set for 9 a.m., February 2, at Washington, D. C., before Commissioners Aitchison, Mahaffie and Splawn, and are to be followed by oral argument before the commission, without briefs, "as soon as practicable after the close of the further hearing, according to announcement which will be made during such hearing."

In its order reopening the case, the commission indicates three purposes in giving the fare and rate situation further consideration: (1) making the record of the case current as to statistical data; (2) examining the "matters of fact alleged and the prayers contained" in the several petitions submitted, and the answers thereto; and (3) deciding what action, if any, should be taken to continue, modify, suspend, or terminate the increases.

Claims made by Price Administrator Henderson in his petition asking the commission to discontinue the increases permitted early in 1942 were outlined in *Railway Age* of December 12, 1942, page 975. The answering arguments of the railroads were detailed in this publication's December 19 issue, page 1005.

In a notice accompanying its order reopening the case, the commission indicated its interest in expediting the proceedings as much as possible. It urges persons with "common interests" in the case to consolidate their testimony, cross-examination, and oral argument, and requests that verified statements be submitted in place of personal appearances wherever possible. These suggestions are made, the notice states, "in order to conserve time and avoid expense and travel, as well as the inconvenience of attendance on the hearing in a congested city."

In issuing the order the commission also requested the railroads and intervening parties in their evidence and arguments to discuss the "desirability, feasibility, and legality" of a requirement by the commission that revenues derived from increases "here-

(*Continued on page 182*)

$812 Million Net Income in 11 Mos.

Net railway operating income for the same period was $1,309,041,877

Class I railroads in the first 11 months of 1942 had an estimated net income, after interest and rentals, of $812,000,000, as compared with $444,620,299 in the corresponding 1941 period, according to the Bureau of Railway Economics of the Association of American Railroads. The net railway operating income for the 11 months was $1,309,041,877, compared with $918,954,295 in the same period in 1941.

In the 12 months ended November 30, 1942, the Class I roads had a rate of return of 5.23 per cent on their property investment, as compared with 3.79 per cent for the 12 months ended November 30, 1941.

November's estimated net income was $104,000,000, compared with $29,225,516 in November, 1941; while the net railway operating income for that month was $148,948,998, compared with November, 1941's $68,933,024.

Fourteen Class I roads failed to earn interest and rentals in the first 11 months of 1942, of which seven were in the Eastern district, one in the Southern district, and six in the Western district. The tax bill in the 11 months was greater than in any corresponding period on record, amounting to $1,119,829,374. For the same period in 1941, it was $512,464,690. For November alone, tax accruals of 133 Class I roads amounted to $118,637,934 an increase of $78,220,331, or 193.5 per cent above November, 1941.

Total operating revenues for 11 months amounted to $6,763,231,783, compared with $4,867,139,844 in the same period in 1941, an increase of 39 per cent. Operating expenses totaled $4,169,556,943, compared with $3,311,643,147, or an increase of 25.9 per cent.

Class I roads in the Eastern district in the 11 months had an estimated net income of $337,000,000 compared with $249,724,928 in the same period in 1941. Their net railway operating income was $534,953,927, compared with $449,674,376. The 11-month gross in the Eastern district totaled $3,136,778,140, an increase of 30.1 per cent compared with the same period in 1941, while operating expenses totaled $2,003,418,845, an increase of 22.9 per cent. The Eastern district's net income for November was $38,900,000 compared with $16,832,110 in November, 1941, net railway operating income was $57,110,864 compared with $34,388,613.

Class I roads in the Southern district in the 11 months had an estimated net income of $127,000,000 compared with $66,480,426 in the same period of 1941. Those same roads had a net railway operating income of $189,135,211 compared with $126,157,211. Gross in the Southern District in the 11 months totaled $948,703,450, an increase of 50.1 per cent compared with the same period in 1941, while operating expenses totaled $560,609,267, an increase of 31.3 per cent. For November alone the roads in the Southern district had an estimated net income of $17,600,000 compared with $5,893,611 in November, 1941; net railway operating income amounted to $23,089,442 compared with $10,406,561.

Class I roads in the Western district in the 11 months had an estimated net income of $348,000,000 compared with $128,414,945 in the same period of 1941. Their net railway operating income was $584,952,739 compared with $343,122,708. The 11-months gross in the Western district totaled $2,677,750,193, an increase of 46.9 per cent compared with the same period in 1941, while operating expenses totaled $1,605,528,831 an increase of 28 per cent. The Western district's net income for November was $47,500,000 compared with $6,499,795 in November, 1941; net railway operating income amounted to $68,748,692 compared with $24,137,850.

CLASS I RAILROADS—UNITED STATES

	1942	1941
Month of November		
Total operating revenues	$690,108,128	$457,011,853
Total operating expenses	406,389,193	335,614,115
Operating ratio—per cent	58.89	73.44
Taxes	118,637,934	40,417,603
Net railway operating income (Earnings before charges)	148,948,998	68,933,024
Net income, after charges (estimated)	104,000,000	29,225,516
Eleven Months Ended November 30		
Total operating revenues	6,763,231,783	4,867,139,844
Total operating expenses	4,169,556,943	3,311,643,147
Operating ratio—per cent	61.65	68.04
Taxes	1,119,829,374	512,464,690
Net railway operating income (Earnings before charges)	1,309,041,877	918,954,295
Net income, after charges (estimated)	812,000,000	444,620,299

Former Dominion Railway Minister Dies

George Perry Graham, Liberal member of the Canadian Senate who had been minister of railways and canals in Canada from 1907 to 1911 and again from 1923 to 1926, died on January 2 at Brockville, Ont., at the age of 83. Mr. Graham, a native of Eganville, Ont., became chairman of the Senate Railway Committee in 1931 and co-chairman in 1938 of the special Senate Railway Committee appointed to examine the questions of co-operation between the Canadian National and the Canadian Pacific and possible amalgamation.

New York Commutation Fare Case Before Full Commission

Oral arguments in the application of the railroads providing commutation service in the state of New York for authority from the Interstate Commerce Commission to apply to New York intrastate commutation fares the increases allowed early in 1942 on interstate fares will be heard before the full commission in Washington, D. C, beginning January 18, following earlier hearings and the submission of briefs by the railroads and by numerous intervening parties objecting to the proposed increase.

Canadian Pacific Air Line Expands

Expects to develop world-wide system after war—Traffic doubled in 1942

During its first year of operations, Canadian Pacific Air Lines flew some six million scheduled airplane-miles in 1942, according to a statement by L. B. Unwin, president. Passengers and freight carried were more than double the previous year. Air cargo reached a record total of close to 10,000,000 lb., consisting largely of military and air defense freight shipments.

Over 90 per cent of the total traffic now handled by Canadian Pacific Air Lines is connected with the war program of Canada and the United States. Its planes reach Labrador, the Northwest Territories, Yukon, Alaska and the Arctic. Canadian Pacific planes played a major role in the construction of the Alaska Highway and are daily carrying an ever-increasing volume of mail to American troops, equipment and supplies to contractors engaged in far northern war projects, and moving large numbers of priority passengers on war business.

In addition to its transport operations the company is the largest single civilian organization connected with the British Commonwealth Air Training Plan and operates, on a non-profit basis, six of a total of nine Air Observer Schools, and one Elementary Flying Training School. It also manages five engine overhaul and aircraft repair plants under contract to the Department of Munitions and Supply for the maintenance of R. C. A. F. equipment.

The first year of growth has witnessed many improvements in the C. P. Air services. New equipment has been secured, operating, maintenance and traffic policies standardized on a "main line basis," and ground facilities enlarged and modernized to meet the heavy demands of war traffic. C. P. Air Lines now has over 6,000 employees.

Looking forward to a role in commercial aviation in the post-war world, the Canadian Pacific expects to extend its air operations on a worldwide basis.

OPA Rules Newsprint Maker May Pass on Freight Tax

Standard newsprint is exempted from the requirements of OPA Special Order No. 31, reported in *Railway Age* of November 28, 1942, page 895, the Office of Price Administration announced December 30. This exemption permits manufacturers of newsprint to pass on to the purchaser the 3 per cent freight tax effective December 1. Makers of woodpulp, paper and paper products who have customarily absorbed freight charges, or made allowances therefor, are required to absorb the transportation tax up to the limit of the allowance absorbed under the maximum price regulations under which they operate, but may pass on tax charges in excess of those limits.

Sees First-Quarter Loadings Up 3.4%

Three-months total of 7,712-290 forecast by Shippers Advisory Boards

Freight car loadings in the first quarter of 1943 are expected to be about 3.4 per cent above actual loadings in the same quarter in 1942, according to estimates compiled by the thirteen Shippers' Advisory Boards.

On the basis of those estimates, loadings of the 28 principal commodities will be 7,712,290 cars in the first quarter of 1943, compared with 7,461,503 actual car loadings for the same commodities in the corresponding period in the preceding year. Eight of the 13 Boards estimate an increase in first-quarter loadings, but five (the Pacific Northwest, the Trans-Missouri-Kansas, the Southeast, the Atlantic States and the New England Boards) estimate decreases.

The tabulation below shows actual car-loadings for each district in the first quarter of 1942, the estimated loadings for the first quarter of 1943, and the percentage of increase or decrease.

Shippers' Advisory Boards	Actual Loadings First Quarter 1942	Estimated Loadings First Quarter 1943	Per Cent Increase
New England	199,418	170,937	14.3*d*
Atlantic States	871,034	835,489	4.1*d*
Allegheny	1,119,799	1,123,004	0.3
Ohio Valley	889,199	919,859	3.4
Southeast	877,854	875,602	0.3*d*
Great Lakes	533,035	545,118	2.3
Central Western	421,864	290,864	20.3
Mid-West	1,060,834	1,216,754	14.7
Northwest	213,244	233,943	9.7
Trans-Missouri-Kansas	373,258	366,604	1.8*d*
Southwest	491,607	540,256	9.9
Pacific Coast	358,149	370,934	3.6
Pacific Northwest	232,208	222,926	4.0*d*
Total	7,461,503	7,712,290	3.4

The Boards expect an increase in the loading of 10 of the commodities listed, but a decrease in 18. Among those showing the greatest increases are the following: Cottonseed and products except oil, 22.2 per cent; manufacturers and miscellaneous, 18.4 per cent; livestock, 14.6 per cent; grain, 10.9 per cent; potatoes, 10.5 per cent; fertilizers, 8.3 per cent; and coal and coke, 5.7 per cent.

Among the commodities for which decreases are estimated and the amount of the decreases are the following: Agricultural implements and vehicles other than automobiles, 45.4 per cent; sugar, syrup and molasses, 18.4 per cent; paper, paperboard and prepared roofing, 10.7 per cent; lime and plaster, 10.3 per cent; cement, 8.8 per cent; poultry and dairy products, 7.9 per cent; citrus fruits, 7.6 per cent; lumber and forest products, 6.5 per cent; gravel, sand and stone, 5.7 per cent; brick and clay products, 5.5 per cent; petroleum and petroleum products, 4.8 per cent, and iron and steel, 4.6 per cent.

Fewer Tire Records Required

Beginning January 1, fleet operators of buses and other commercial motor vehicles transporting passengers will not be required to keep tire records on the ODT Certificate of War Necessity assigned to each vehicle, the Office of Defense Transportation announced December 30. A fleet operator is defined as an operator of three or more vehicles. Such operators are not relieved by this order (Exemption Order ODT 21-3) from the responsibility of keeping tire records for each vehicle, however, the announcement points out, and these records must be available for inspection at all times.

Film Educates in Best Track Work Practices

The New York Central is showing a film—"Seeing Is Believing"—to make known among track men throughout the system the *best* methods of performing various kinds of track work.

The thought behind the film was —if the *best* method of doing each job were ascertained and publicized —then the entire system might have the opportunity to bring its performance up to the best. To seek out these best methods, a committee was appointed some four years ago, with the duty of examining and selecting what appeared to be the most efficient technique for each job.

Experience showed that other methods of publicizing good methods were not fully effective, and so the film medium was used—with highly satisfactory results. The film does not only show the best practices, but also those to be avoided. A soundtrack of descriptive comment has been synchronized with the picture to make it fully intelligible to the audience.

Equipment Installed in 1942's First Eleven Months

Class I railroads put 61,220 new freight cars in service in the first 11 months of 1942, according to the Association of American Railroads. Included were 34,359 box, 22,237 coal, 2,487 flat, 631 refrigerator, 100 stock, and 1,406 miscellaneous freight cars.

New freight cars on order on December 1, 1942 totaled 28,108 compared with 76,942 on the same day in 1941. Class I roads had on order on December 1, 1942, 8,159 box, 17,249 coal, 1,495 flat, 800 refrigerator, 200 stock, and 205 miscellaneous freight cars.

Railroads in the first 11 months of 1942 installed 668 locomotives of which 273 were steam and 395 were electric and Diesel-electric. In the same period of 1941 they put 557 new locomotives in service of which 136 were steam and 421 were electric and Diesel-electric. New locomotives on order on December 1, 1942, totaled 894 which included 369 steam and 525 electric and Diesel-electric. On December 1, 1941, they had 572 new locomotives on order including 281 steam and 291 new electric and Diesel-electrics.

42.8 Million Cars Loaded Last Year

Only 1.3 per cent above 1941, but ton-miles increased nearly 33 per cent

Loading of revenue freight on the railroads of the United States in 1942 totaled 42,818,739 cars, according to the Association of American Railroads.

The A. A. R. statement pointed out that although loadings were thus only 528,975 cars or 1.3 per cent above the preceding year, ton-miles increased nearly 33 per cent due to the heavier loading of cars and the longer haul per ton. Meanwhile the loadings were up 6,460,885 cars or 17.8 per cent compared with 1940.

Total loadings by commodities in 1942 compared with 1941 follow:

	1942	1941	Per Cent Increase	Per Cent Decrease
Grain and grain products	2,180,348	2,022,609	7.8	
Live stock	744,400	650,479	14.4	
Coal	8,361,393	7,590,833	10.2	
Coke	731,299	677,449	7.9	
Forest products	2,450,204	2,186,999	12.0	
Ore	3,011,784	2,682,325	12.3	
Merchandise, l.c.l.	5,584,736	8,041,503		30.6
Miscellaneous	19,754,575	18,437,567	7.1	
Total	42,818,739	42,289,764	1.3	

Loadings of revenue freight for the week ended January 2 totaled 621,048 cars, the Association of American Railroads announced on January 7. This was an increase of 29,453 cars, or 5.0 per cent, above the preceding week, a decrease of 55,486 cars, or 8.2 per cent, below the corresponding week last year, and an increase of 6,877 cars, or 1.1 per cent, above the comparable 1941 week.

Loading for the week ended December 26 totaled 591,595 cars. This was a decrease of 151,316 cars or 20.4 per cent below the preceding week, a decrease of 14,907 cars or 2.5 per cent below the corresponding week in 1941, but an increase of 46,288 cars or 8.5 per cent above the same week in 1940.

Revenue Freight Car Loading

For the Week Ended Saturday, December 26 District	1942	1941	1940
Eastern	114,749	133,265	125,545
Allegheny	126,995	143,618	126,536
Pocahontas	34,834	32,799	33,046
Southern	90,778	87,433	76,934
Northwestern	68,298	71,060	64,033
Central Western	97,072	92,978	80,931
Southwestern	58,869	45,349	38,282
Total Western Districts	224,239	209,387	183,246
Total All Roads	591,595	606,502	545,307
Commodities			
Grain and grain products	39,449	29,386	21,983
Live stock	11,443	9,698	8,682
Coal	121,331	112,866	113,618
Coke	13,687	13,197	11,719
Forest products	31,063	26,485	24,191
Ore	11,882	11,459	10,870
Merchandise l.c.l.	72,492	123,136	120,346
Miscellaneous	290,248	280,275	233,898
December 26	591,595	606,502	545,307
December 19	742,911	798,868	697,755
December 12	740,336	807,225	736,340

December 5...	759,621	833,375	738,513
November 28...	743,533	866,180	728,525
Cumulative Total 52 Weeks ...	42,818,739	42,289,764	36,357,854

In Canada.—Carloading for the week ended December 26 totaled 48,536, as compared with 45,013 for the last week in 1941 and 65,237 in the preceding week, according to the compilation of the Dominion Bureau of Statistics.

Total for Canada:	Total Cars Loaded	Total Cars Rec'd from Connections
December 26, 1942....	48,536	32,227
December 19, 1942....	65,237	33,872
December 12, 1942....	66,724	34,548
December 27, 1941....	45,013	25,964
Cumulative Totals for Canada:		
December 26, 1942....	3,375,111	1,759,568
December 27, 1941....	3,189,463	1,557,716
December 28, 1940....	2,812,597	1,301,178

Fire Damages Great Northern Engine House

Fire, which is thought to have started in the cab of a locomotive, damaged this locomotive and the engine house of the Great Northern at Bend, Ore., on December 30, with an estimated loss of $100,000. Four other locomotives in the building were removed when the fire started.

Intrastate Passenger Rate Two Cents in Illinois

The Illinois Commerce Commission, on December 17, struck from its tariff files the rates of 11 railroads proposing a passenger fare for intrastate passenger service in the state in excess of two cents per mile. In its order the commission pointed out that it lacks jurisdiction to authorize passenger fares in excess of the two cents a mile fixed by the Illinois Maximum Fare law.

Atlantic Shippers Will Meet on January 14

What is ahead for the railroads in 1943 will dominate the discussions at the 19th annual meeting of the Atlantic States Shippers Advisory Board at the Hotel Astor in New York on January 14.

John M. Fitzgerald, vice-chairman of the Committee on Public Relations of the Eastern Railroad Presidents' Conference, will be the principal speaker. Features of the board's morning business session will include election of officers; reports by the various committees, and addresses by M. J. Gormley, executive assistant of the A. A. R., and O. C. Castle, associate director of the Division of Railway Transport of the ODT. C. J. Goodyear, general chairman, will preside.

Preliminary meetings of five of the board's committees will be held on January 13, at the same hotel.

Executives Look Forward to Even Busier 1943

That the new year ahead will bring even heavier tasks for the railroads was the point stressed by several chief executives of railroads in their year-end messages to employees and the public.

President F. E. Williamson of the New York Central in his message told employees that in a little more than a year the N. Y. C.'s passenger load had doubled and its freight load increased by one-half. "It is our job," he said, "to maintain a steady flow of materials to war industries; to carry the tools of war which they produce; to move millions of men in our armed services; to provide essential civilian transportation; to bring coal and petroleum to the East and otherwise assume loads that other transportation agencies previously bore.

"Let us recall that those who use our service will gladly sacrifice convenience or comfort whenever war conditions call for that sacrifice; also that our future as one of America's greatest business organizations will be much affected by what our war-time patrons—many of whom we did not serve before—think of our service during these times."

R. B. White, president of the Baltimore & Ohio, in his message to employees said: "We can be proud of the job we have done during the last 12 months. Our business was the heaviest, our revenues the largest and many of our operating records the most outstanding in B. & O. history. Best of all, we handled without failure every one of the many tasks assigned us in the prosecution of the war.

"Spokesmen for Congress, the Army and Navy, the Office of Defense Transportation, and the I. C. C., praise the all-American railroad achievement as one of the finest of the war. I realize that the B. & O.'s part was accomplished largely

NET INCOME OF LARGE STEAM RAILWAYS

(Switching and Terminal Companies Not Included)

Name of Railway	Net Income After Depreciation and Amortization of Defense Projects — For the Ten Months of 1942	Net Income After Depreciation and Amortization of Defense Projects — For the Ten Months of 1941	Net Income Before Depreciation and Amortization of Defense Projects — For the Ten Months of 1942	Net Income Before Depreciation and Amortization of Defense Projects — For the Ten Months of 1941
Alton	$2,633,449	$180,324	$2,870,367	$409,833
Atchison, Topeka & Santa Fe[3]	55,661,725	23,526,088	68,564,348	33,790,258
Atlantic Coast Line	14,898,297	7,459,615	19,088,807	9,444,468
Baltimore & Ohio	27,247,769	19,133,093	36,349,124	25,456,708
Boston & Maine	7,340,836	5,716,428	9,008,758	6,905,490
Central of Georgia[2]	2,823,682	1,194,998	3,873,822	1,920,968
Central of New Jersey[2]	3,763,636	717,195	4,994,727	1,815,833
Chesapeake & Ohio	25,088,290	33,261,454	34,308,104	40,520,587
Chicago & Eastern Illinois	1,965,586	1,277,344	2,495,964	1,792,407
Chicago & North Western[2]	8,032,991	2,751,722	15,263,434	6,821,049
Chicago, Burlington & Quincy	21,044,283	9,196,386	26,908,175	13,583,409
Chicago Great Western	1,727,193	1,490,201	2,359,860	1,961,932
Chicago, Milwaukee, St. Paul & Pacific[2]	8,669,975	5,858,069	17,185,775	10,910,088
Chicago, Rock Island & Pacific[2]	17,778,134	4,874,473	21,838,915	8,510,027
Chicago, St. Paul, Minneapolis & Omaha	549,846	* 609,486	1,071,991	* 165,632
Delaware & Hudson	4,364,029	4,024,420	6,131,198	4,978,127
Delaware, Lackawanna & Western	3,987,052	3,323,434	7,526,669	5,383,968
Denver & Rio Grande Western[2]	9,400,560	* 2,344,172	11,154,200	* 1,231,586
Duluth, Missabe & Iron Range	6,195,264	13,667,209	7,444,723	14,404,985
Elgin, Joliet & Eastern	2,115,993	4,919,787	4,729,199	5,940,486
Erie	12,130,840	7,353,507	17,809,012	10,462,713
Grand Trunk Western	718,817	1,635,795	1,877,097	2,613,504
Great Northern	20,701,399	14,446,748	27,857,189	19,099,064
Gulf, Mobile & Ohio	3,127,685	1,889,858	4,062,412	2,598,254
Illinois Central	9,593,408	6,213,828	16,619,351	11,797,187
Lehigh Valley	4,410,577	3,102,179	7,996,007	4,859,071
Long Island	296,533	* 866,973	2,084,125	443,672
Louisville & Nashville	12,924,493	15,092,738	19,223,288	18,872,510
Minneapolis, St. Paul & Sault Ste. Marie[2]	* 2,154,672	* 2,723,580	* 328,050	* 1,655,214
Missouri-Kansas-Texas	3,792,470	* 112,795	4,745,985	837,058
Missouri Pacific[2]	25,087,862	3,338,625	29,477,263	7,101,753
New York Central[4]	38,903,386	22,979,095	65,298,589	38,156,852
New York, Chicago & St. Louis	7,747,298	9,223,292	9,963,812	10,632,637
New York, New Haven & Hartford[2]	15,611,534	4,564,827	19,310,520	7,349,990
Norfolk & Western	17,780,217	24,142,082	28,297,089	29,662,734
Northern Pacific	10,632,472	5,735,580	18,539,142	9,301,108
Pennsylvania	78,488,640	44,525,885	108,692,118	68,676,882
Pere Marquette	2,688,551	2,839,442	5,238,895	4,810,375
Pittsburgh & Lake Erie	3,544,751	4,785,055	6,200,398	6,721,620
Reading	12,046,967	8,187,866	16,321,681	10,797,133
St. Louis-San Francisco[2]	9,430,536	35,749	12,063,240	2,542,618
St. Louis, San Francisco & Texas	817,918	109,688	817,918	109,688
St. Louis Southwestern[2]	5,157,254	3,306,477	5,758,026	3,862,192
Seaboard Air Line[2]	16,360,309	760,582	18,526,489	2,807,792
Southern	21,327,458	14,630,552	29,363,802	18,125,871
Southern Pacific[5]	59,342,846	33,676,495	74,532,835	40,470,404
Texas & Pacific	6,515,976	2,612,840	7,624,810	3,672,084
Union Pacific (including leased lines)	42,372,329	17,197,441	51,639,933	24,177,748
Wabash	4,270,040	2,471,577	6,996,183	4,281,021
Yazoo & Mississippi Valley	9,462,834	1,983,857	9,928,362	2,451,242

* Deficit.

[1] Report of receiver or receivers.

[2] Report of trustee or trustees.

[3] Includes Atchison, Topeka & Santa Fe Ry., Gulf, Colorado & Santa Fe Ry., and Panhandle & Santa Fe Ry.

[4] Includes Boston & Albany, lessor to New York Central R. R.

[5] Includes Southern Pacific Company, Texas & New Orleans R. R., and leased lines. The report contains the following information: "Figures reported for Southern Pacific Transportation System exclude offsetting debits and credits for interest on funded securities and rentals for leased properties between companies included therein. Operations for 1942 of separately operated Solely Controlled Affiliated Companies (excluding results for Southern Pacific Railroad Company of Mexico), not included in income results for the System, resulted in a net income of $848,567 for the month and $1,739,964 for the period. These results include $195,552 for the month and $1,957,804 for the period representing interest on bonds of such companies owned by Southern Pacific Company not taken into income by S. P. Co. and therefore, not included in the 1942 income results for the System. The combined results for 1942 for Southern Pacific Transportation System and separately operated Solely Controlled Affiliated Companies (excluding S. P. R. R. Co. of Mexico) amounted to a net income of $12,798,985 for the month and $63,040,614 for the period. Figures herein given exclude results of S. P. R. R. Co. of Mexico for the reason that policy was adopted January 1, 1940 of making no further advances to that company, it being required to conduct its operations entirely within its own resources."

Compiled by the Bureau of Transport Economics and Statistics, Interstate Commerce Commission. Subject to revision.

SELECTED INCOME AND BALANCE-SHEET ITEMS OF CLASS I STEAM RAILWAYS

Compiled from 132 Reports (Form IBS) Representing 136 Steam Railways
(Switching and Terminal Companies Not Included)

All Class I Railways

Income Items	For the Month of October 1942	For the Month of October 1941	For the Ten Months of 1942	For the Ten Months of 1941
1. Net railway operating income	$184,680,005	$94,047,045	$1,159,921,256	$850,021,278
2. Other income	12,980,585	12,874,888	124,881,202	124,158,775
3. Total income	197,660,590	106,921,933	1,284,802,458	974,180,053
4. Miscellaneous deductions from income	4,550,131	2,242,572	28,727,186	23,191,606
5. Income available for fixed charges	193,110,459	104,679,361	1,256,075,272	950,988,447
6. Fixed charges:				
6-01. Rent for leased roads and equipment	18,265,433	10,145,173	153,082,051	130,210,246
6-02. Interest deductions[1]	36,842,594	38,701,096	369,478,631	386,813,476
6-03. Other deductions	121,982	116,115	1,182,666	1,186,895
6-04. Total fixed charges	55,230,009	48,962,384	523,743,348	518,210,617
7. Income after fixed charges	137,880,450	55,716,977	732,331,924	432,777,830
8. Contingent charges	2,342,175	1,559,052	23,101,039	15,451,629
9. Net income	135,538,275	54,157,925	709,230,885	417,326,201
10. Depreciation (Way and structures and Equipment)	23,233,861	17,814,840	207,260,805	179,726,762
11. Amortization of defense projects	8,629,145	1,822,103	65,710,086	2,096,908
12. Federal income taxes	84,878,655	14,577,479	634,384,706	159,813,030
13. Dividend appropriations:				
13-01. On common stock	9,075,547	2,266,668	87,629,602	83,452,632
13-02. On preferred stock	6,375,080	2,014,229	25,773,745	19,681,072
Ratio of income to fixed charges (Item 5 ÷ 6-04)	3.50	2.14	2.40	1.84

Selected Asset and Liability Items	Balance at End of October 1942	Balance at End of October 1941
20. Investments in stocks, bonds, etc., other than those of affiliated companies (Total, Account 707)	$499,535,733	$549,818,905
21. Cash	$1,066,958,777	$851,670,434
22. Temporary cash investments	603,696,667	178,775,439
23. Special deposits	139,743,069	229,305,816
24. Loans and bills receivable	985,170	1,262,103
25. Traffic and car-service balances—Dr.	40,114,587	37,927,311
26. Net balance receivable from agents and conductors	145,252,435	77,541,974
27. Miscellaneous accounts receivable	400,647,661	174,590,948
28. Materials and supplies	515,739,830	424,588,179
29. Interest and dividends receivable	24,084,793	22,966,449
30. Rents receivable	1,451,327	1,587,354
31. Other current assets	14,266,616	10,639,340
32. Total current assets (items 21 to 31)	2,952,940,932	$2,010,855,347
40. Funded debt maturing within 6 months[2]	159,951,151	127,446,989
41. Loans and bills payable[3]	$32,288,950	$56,883,442
42. Traffic and car-service balances—Cr.	114,533,872	63,147,091
43. Audited accounts and wages payable	325,887,574	286,068,224
44. Miscellaneous accounts payable	66,885,175	45,663,201
45. Interest matured unpaid	47,653,751	33,617,508
46. Dividends matured unpaid	2,284,392	1,810,939
47. Unmatured interest accrued	80,139,025	79,687,474
48. Unmatured dividends declared	20,965,237	5,957,822
49. Unmatured rents accrued	27,098,596	26,878,782
50. Accrued tax liability	932,167,963	384,825,243
51. Other current liabilities	63,938,929	48,835,487
52. Total current liabilities (items 41 to 51)	$1,713,843,464	$1,033,375,213
53. Analysis of accrued tax liability:		
53-01. U. S. Government taxes	788,901,121	251,256,060
53-02. Other than U. S. Government taxes	143,266,842	133,569,183

[1] Represents accruals, including the amount in default.
[2] Includes payments of principal of long-term debt (other than long-term debt in default) which will become due within six months after close of month of report.
[3] Includes obligations which mature not more than 2 years after date of issue.

because of your fine interest and your hard, intelligent and co-operative work, and I appreciate your loyal support."

In pledging the Southern Pacific to the handling of still greater war-time traffic, President A. T. Mercier said: "We look to the continuation and extension of the excellent cooperation we have had from military and commercial shippers, from the ODT, and from other railroads; the tolerance and understanding of travelers and the general public, and the first-rate teamwork and enthusiasm of the men and women of the Southern Pacific."

Continuing, Mr. Mercier said, "with more than 9,000 of its former employes in the armed forces at the end of 1942, the Southern Pacific has labored under a serious shortage of manpower and at the present time is short approximately 10,000 men. The railroad has also lacked some equipment. Although all but 63 locomotives of the 203 ordered by the road in the last three years had been delivered by the end of December, it has been necessary for the Southern Pacific to lease about 20 engines from the railroads."

Mediate Non-Ops Wage Case

Mediation of the demands of the 14 non-operating unions and the Hotel & Restaurant Employees' International Alliance for a wage increase of 20 cents an hour, a minimum wage of 70 cents an hour and a closed shop began at Chicago on January 7. Mediation is being directed by George A. Cooke, chairman of the National Mediation Board, who opened discussions of the demands with the leaders of the labor groups at the Morrison Hotel in the morning and with the conference committees of the railroads in the afternoon at the Union Station. On succeeding days the same procedure of meeting with each group separately was followed.

Whether the controversy will follow the procedure of the Railway Labor Act or be settled through war emergency labor measures is not clear. It is apparent, however, that the unions are opposed to action by the National War Labor Board. "Labor," the unions' paper, of January 2, reported that a committee representing labor organizations conferred with government officers in Washington on December 30, on plans "to facilitate the handling of the wage movements." Union officers, the story stated, maintained that the rail wage movements should be completely divorced from the National War Labor Board, which, they contended, does not have jurisdiction over the railroad industry.

Freight Traffic in September

In September the Class I railways handled 58,155 million ton-miles, an increase of 31.3 per cent over September, 1941. The number of revenue tons carried amounted to 261,547 thousand, an increase of 20 per cent over the like 1941 month. Comparisons with 1929 and 1941 for the month of September and the nine months ending with September are shown below:

Revenue Ton-Miles (Millions)

	1929	1941	1942	% inc. 1942 over 1929	% inc. 1942 over 1941
Sept.	40,419	44,309	58,155	43.9	31.3
Nine months	334,833	343,384	463,894	38.5	35.1

Revenue Tons Carried (Thousands)

Sept.	223,010	217,924	261,547	17.3	20.0
Nine months	1,804,131	1,667,963	2,069,775	14.7	24.1

I.C.C. Orders K.C.S. to Install Block Signals

The Kansas City Southern has been ordered by Division 3 of the Interstate Commerce Commission to install before July 1, 1944, a block signal system on its line between DeQuincy, La., and Beaumont, Tex., about 37 miles, and between Joplin, Mo., and McElhany, 26.5 miles, and the commission is holding open for further consideration its proceedings following a show-cause order of July 30, 1942, which would require installation of block signals on all portions of the company's main line between Kansas City, Mo., and Port Arthur, Tex., not already so equipped.

The show-cause order followed investigations of four train accidents on this road which occurred between August 18, 1941, and May 25, 1942. In reply to the order the railroad at first contended that it should not be required to install block signals, while train service unions filed claims that the installations required by the show-cause order should be made. At a hearing on September 14, 1942, however, the railroad withdrew its reply and filed a new reply, in which it proposed to install a C. T. C. system between Beaumont and DeQuincy, and an automatic block signal system between Joplin and McElhany, the two sections of its line subject to the heaviest traffic density.

Replying to the revised answer of the railroad, the unions pointed out that it proposed to install block signals on 63 miles of road in addition to that already so

equipped, while the show-cause order would have required such installations on about 800 miles of line, and contended that the railroad should be required to signal its entire main line. The installations proposed by the road were approved by the commission on October 21, 1942, and in the current order it finds that its show-cause order will be partially satisfied by these installations, leaving its decision as to the unequipped portions of the line for later determination.

Railroads Sue Montgomery Ward

Counter suits to the damage suit filed by Montgomery Ward in the District Court at Portland, Ore., on December 3, against certain railroads, have been filed in the same court by the Northern Pacific Terminal Company of Oregon and the Southern Pacific. While in its suit, as reported in the *Railway Age* of December 19, Montgomery Ward alleges that shipments were held up during a strike in 1941 although the plaintiffs were obligated by their published tariffs to perform transportation services as common carriers, the railroads in their suit charge that Montgomery Ward has not paid certain demurrage, storage and loading charges. More than 20 cars were listed as tied up through no fault of the railroads.

December 1 Coal Pile Would Run Railroads 39 Days

Stocks of bituminous coal held by Class I railroads on December 1, 1942, equalled a 39 day supply, Solid Fuels Co-ordinator Ickes announced on December 28. This compares with a 41 day supply on hand November 1, a decrease in terms of days supply of 4.9 per cent. The tonnage reported on hand December 1 was 13,293,060, as compared with 13,662,581 November 1, a decrease of 2.7 per cent.

Stocks of bituminous coal held by Class I roads in different regions were reported as follows:

Region	Stocks on Hand (Tons) Dec. 1, 1942	Nov. 1, 1942	Percent of Change	Average Days Supply Dec. 1, 1942	Nov. 1, 1942
Eastern	3,011,659	3,158,940	−4.7	39	42
Allegheny	2,853,498	2,941,302	−3.0	35	37
Pocahontas	638,363	628,644	+1.5	37	37
Southern	2,825,524	2,911,199	−2.9	46	49
Northwestern	2,096,594	2,104,321	−0.4	52	53
Central Western	1,428,753	1,460,880	−2.2	28	31
Southwestern	438,669	457,295	−4.1	31	33

B. & M. Employees Raise $7500 for United Seamen's Service

Over 14,000 persons gathered in the Boston Garden, the big sports arena over the Boston & Maine's North station in Boston, recently to attend the war bond victory ball and entertainment of B. & M. employees. The affair was staged by a joint committee of the standard railroad labor organizations on the road and the management, and the proceeds, which amounted to over $7,500, were to be donated to the United Seamen's Service, Inc., for relief among members of the U. S. Merchant Marine.

President E. S. French of the B. & M. was honorary chairman of the affair and a large committee of railroadmen and union officers assisted in the active direction of the ball and entertainment. Mayor Tobin of the City of Boston and four John Powers models conducted the drawings for the award of 17 war bonds, which the ball committee gave away to those present. The top prize was a $1,000 bond and 16 others of lesser denomination were presented to lucky guests.

Oregon, California & Eastern Wins Treasury "T"

The Oregon, California & Eastern has been awarded the Treasury "T" by the Treasury department for exceeding the minimum requirements of 10 per cent of payroll for war savings bonds by 1.4 per cent. Employee participation in the payroll deduction plan was arranged by the roads joint management-labor committee and the roads percentage of deduction for war bonds, 11.4 per cent, was greater than any of the smaller railroads participating in the program. About 6 per cent of the total railroad payroll of the country is now going into war bonds through payroll deductions.

Walter P. Murphy Leaves Many Bequests

Bequests aggregating many million dollars were made by the late Walter P. Murphy, chairman of the Standard Railway Equipment Manufacturing Company, who died in Los Angeles, Cal., on December 16, to schools, a boys' home, a hospital, a mission and a number of railway officers. More than $20,000,000 was left to Northwestern University, as a result of a provision that the entire estate after the various bequests are deducted and the principal of various trusts after they expire or the beneficiaries die, be given Northwestern. This gift followed a grant of $6,735,000 made by the Walter P. Murphy Foundation in 1939 for the erection of the university's technological institute. According to the will, the latest gift is to be used to develop, maintain and operate the institute. The present gift is the fourth to Northwestern by Mr. Murphy, the first and second of $5,000 and $10,000 having been made in 1923.

Among the railway officers mentioned in the will were 15 railway presidents. Those bequeathed $100,000 are L. W. Baldwin, chief executive officer of the Missouri Pacific; M. W. Clement, president of the Pennsylvania; W. M. Jeffers, president of the Union Pacific; and F. E. Williamson, president of the New York Central. Among those railway officers bequeathed $50,000 are J. L. Beven, president of the Illinois Central; Ralph Budd, president of the Chicago, Burlington & Quincy; Champion McD. Davis, president of the Atlantic Coast Line; C. E. Denney, president of the Northern Pacific; J. M. Kurn, trustee of the St. Louis-San Francisco; E. E. Norris, president of the Southern; C. T. O'Neal, president of the Chicago & Eastern Illinois; J. J. Pelley, president of the Association of American Railroads; Norman Pitcairn, president of the Wabash and H. A. Scandrett, trustee of the Chicago, Milwaukee, St. Paul & Pacific. Among those bequeathed $25,000 are James E. Gorman, deceased, president of the Chicago, Rock Island & Pacific, and C. A. Liddle, president of the Pullman-Standard Car Manufacturing Company.

N. & W. Seeks 10 Per Cent Bond Purchase Goal

A system-wide campaign to enroll all employees of the Norfolk & Western in a 10 per cent payroll plan for the purchase of war bonds was announced recently by L. C. Ayers, assistant general manager of the N. & W., who is chairman of the railway's war bond campaign committee.

A soliciting organization headed by representative employees of the company will contact employees at each point on the system in the endeavor to encourage them to invest at least 10 per cent of their earnings in war bonds. In addition to Mr. Ayers, who represents the operating department, the advisory committee consists of F. S. Baird, assistant vice-president in charge of traffic, representing the traffic department; F. G. McGee, treasurer, representing the treasury department, who will act as secretary of the committee; and H. T. Freed, assistant editor, who will represent the N. & W. magazine department.

Truck Traffic Holds Its Own Despite Restrictions

In spite of restrictions designed to conserve trucks, tires, and gasoline, the volume of truck hauling on main highways in 1942 was substantially the same as in the normal year 1940, the federal Public Roads Administration announced on January 5. During 1942 trucks hauled an estimated 46 billon ton-miles of freight on main rural roads, as compared with 46.7 billion ton-miles in 1940, according to the statement.

One feature of truck traffic observed in 1942 was heavier loading of trucks and combination outfits, the road administration points out. Axle loads in excess of 18,000 pounds, it says, "which tend to damage road surfaces and are illegal in 35 states, were nearly three times as numerous in 1942 as in the period 1936-1940."

Tractor-truck, semi-trailer, and trailer combinations—equipped with three to seven axles, dual wheels, and 10 to 26 tires—carried about 29.2 billion ton-miles in 1942, as compared with 23.5 billion in 1940, the report adds. Their 1942 tonnage movement was about 74 per cent greater than that of single unit trucks, while in 1940 the two types carried about the same total tonnage.

Pointing out that such multi-axle combination units are especially numerous, relatively, in the West, the Public Roads Ad-

ministration remarks that the total tonnage moved by trucks in the Pacific region in 1942 was about 22 per cent greater than in 1940, while in the country as a whole it was slightly less. The statement adds that a "large but undetermined amount of the 1942 volume was traffic of war industries," suggesting that the "urgent need for highway transport" of such industries prevented any substantial reduction in total truck hauling, even though various conservation measures were ordered.

Another characteristic of the 1942 truck traffic mentioned by this review was the larger percentage of both single trucks and combination units running empty, as compared with 1940 records. This condition was explained as due in part to the use of single units to haul workmen to and from war plants, counted as an empty movement, and to inability to obtain return loads from construction jobs, military establishments, and other wartime consignment points.

ODT Orders "Capacity" Bus Loads

Inter-city buses hereafter must be loaded to capacity where passengers are available, the Office of Defense Transportation has directed in an amendment to its General Order No. 11, which places bus operations under ODT control as a wartime measure. For the purposes of the order "capacity" is defined for each bus in terms of the rated load carrying capacity of the tires, but computations on this basis are required to use 120 per cent of the standard rated load capacity, rather than 100 per cent, because the 35 m.p.h. speed limit now effective imposes less strain on tires than was contemplated in developing the standard figures.

The amendment also provides that a bus may be considered loaded to capacity without meeting the maximum weight requirements when it contains the maximum number of passengers and quantity of baggage it can transport "safely and efficiently." Exceptions also are provided for buses disabled en route and for operations over bridges or roads where state or local regulations establish lower load limitations.

The new regulation was stated by the ODT to be intended to fill empty seats and so reduce the use of multiple sections, as well as to prevent loading buses beyond reasonable capacity. In other quarters the comment was made that certain state limitations on the number of passengers taken aboard buses could be avoided by bus operators under the provisions of the ODT order.

Eight Million Troops Carried by Pullman in 1942

More than 8,000,000 soldiers, sailors and marines were transported a total of 9 billion passenger-miles by the Pullman Company in 1942, according to a statement issued by its president, David A. Crawford. At the same time more than 18,000,000 civilian passengers, the largest number since 1931, were carried 10 billion passenger-miles. The Pullman organization has a mobile fleet or pool of more than 7,000 cars to provide extra equipment for seasonal, holiday or emergency peaks in business. This pool of cars received its first wartime test in the first three weeks of the war when 208,110 troops were handled in sleeping cars. In January, more than twice that number were carried and since the volume of organized troop movements by Pullman has increased to a point where it has amounted to more than 800,000 during each of the last three months.

Keyed completely to the war effort, Pullman is employing, in the most intensive operation possible, every available unit in its fleet, many of them serving as sleeping cars on a night trip and doubling back in the daytime in coach or parlor car service. A large proportion of the fleet is employed solely in troop transport, running in solid trains between camps and embarkation points. Drafts, as may be necessary for peak troop movements, are made on cars usually employed in regular train service. Many units of types not needed under wartime conditions, such as lounge, parlor and observation cars, have been or are in the process of extensive remodeling for conversion into high capacity triple-berth sleeping cars, especially useful in the troop transport fleet. Hundreds of cars that have been retired from regular train service during the period of reduced travel volume prior to the war were retained in storage, and now, reconditioned, are performing valuable service in the troop transport fleet.

New car service points, most of them near military camps, have been established and the maintenance personnel increased substantially in order that every possible troop sleeping car may be kept in condition for the transportation of the armed forces. The number of service points has been increased by 17 per cent and the number of maintenance specialists by 10.8 per cent over 1941.

With 2,600 fewer cars than in 1930, it has been possible for Pullman to handle a substantial percentage of all organized railroad troop movements, plus an increased volume of civilian travel, because of the highly efficient operation of the sleeping car pool. The smooth-functioning system which in peacetime operation permits every railroad to obtain sleeping cars in accordance with its traffic needs of the moment, has proved its worth in the emergency by enabling the War and Navy departments to institute vital mass troop movements on short notice. There have been innumerable instances this year in which the Pullman Company's central car distribution headquarters, working through the 78 regional offices by telephone, teletype and telegraph, has, in less than 48 hours, assembled hundreds of cars at a single camp for military use.

In addition to the extensive program of conversion of regular sleeping cars for troop use and the establishment of new maintenance facilities, the Pullman Company invested $12,200,000 in 157 new lightweight sleeping car units for its fleet during the first six months of 1942, bringing the total of new capital invested in the fleet in the last ten years to nearly $80,000,000.

Transportation Employees Are Poorly Informed

Less than 27 per cent of employees of the transportation and public utility industries are rated as "well informed" in a survey conducted for "Fortune" magazine.

The questions asked of employees were such simple ones as: Who is Secretary of War? Have federal agencies increased or decreased in the past ten years? There were nine possible correct answers. Those who answered seven correctly were rated "well informed"; four to six true replies gave the rating of "poorly informed"; less than three right answers classed the respondent as "uninformed." Of those questioned 38 per cent were in the "poorly informed" and 35 per cent in the "uninformed" categories. Even lower percentages of "well informed" were found among factory, personal-service and mining employees.

Meantime, Vice-President Wallace has proclaimed the post-war period as the property of the "common man." If that prophesy and the "Fortune" poll both be true, the future would appear to be in the hands of a group rather inadequately equipped, so far at least, to shape the national destiny intelligently, even in its own self-interest.

Eastman Gets Backing in Drive To Stop Trade Shows

Following the decision of furniture marts in Chicago and Grand Rapids, Mich., to carry out their announced programs despite the request of Joseph B. Eastman, director of the Office of Defense Transportation, reported in *Railway Age* of January 2, page 142, that these shows be cancelled as not essential to the war effort, Mr. Eastman on December 29 requested agencies of the federal government not to send speakers or representatives to these exhibitions.

The next day the Office of Price Administration announced that plans to send several of its representatives to these shows had been cancelled, and that the meeting in Chicago of the household furniture industry advisory panel, scheduled for January 5, had been postponed. At the same time the War Production Board announced that three members of its staff scheduled to speak at the meetings, including Joseph L. Weiner, director of the Office of Civilian Supply, had notified the sponsors that they would not attend.

On December 30 Mr. Eastman wrote Donald Nelson, chairman of the War Production Board, asking for a statement "as to whether or not trade shows, sales meetings, etc., from a production standpoint may generally be regarded as essential to our war program. I refer particularly to these gatherings such as furniture marts, home furnishing shows, dry goods displays, etc., which call for a concentration periodically of both materials and passengers."

Answering this letter, Ernest C. Kanzler, WPB Director General for Operations, in-

formed M. Eastman that "in general" that agency does not regard industrial promotional sales shows, trade displays, etc., as essential to the war effort." In view of the necessity for curtailing unnecessary travel and shipments, the reply continued "we see no reason, from a war production standpoint, why you should not take any steps you see fit to eliminate travel or shipments to the unessential shows or events."

Hearings Ordered In Ex Parte 148

(Continued from page 175)

tofore or hereafter made" shall be kept separate from other income to be used solely for additions and betterments or for debt reduction.

Briefs and written arguments will not be expected at the time of the further hearing, the commission suggests, except when they are offered in place of oral argument. Such briefs as are filed are required not later than February 15, and 10 days thereafter will be allowed for filing replies.

The commission also has indicated its intention of taking "official notice of facts set forth in its current statistical publications," and proposes that these publications, listed below, be accepted by stipulation for all purposes in the proceedings. The following tabulations are specified in this connection:

1. Operating revenues and operating expenses of Class I steam railways in the United States (I. C. C. Bureau of Transport Economics and Statistics Statement No. M-100, Monthly).
2. Operating revenues and operating expenses for large steam railways (individually), (I. C. C. Bureau of Transport Economics and Statistics Statement No. M-150, Monthly).
3. Selected income and balance sheet items of Class I steam railways. (I. C. C. Bureau of Transport Economics and Statistics Statement No. C-125, Monthly).
4. Wage Statistics of Class I steam railways, (I. C. C. Bureau of Transport Economics and Statistics Statement No. M-300, Monthly).
5. Fuel and power for locomotives (I. C. C. Bureau of Transport Economics and Statistics Statement No. M-230, Monthly).
6. Freight train performance (I. C. C. Bureau of Transport Economics and Statistics Statement No. M-211, Monthly).
7. Passenger train performance (I. C. C. Bureau of Transport Economics and Statistics Statement No. M-213, Monthly).
8. Revenue Traffic Statistics (I. C. C. Bureau of Transport Economics and Statistics Statement No. M-220, Monthly).
9. Freight Commodity Statistics (I. C. C. Bureau of Transport Economics and Statistics Statement No. Q-500, Quarterly).
10. Freight Commodity Statistics (I. C. C. Bureau of Transport Economics and Statistics Statement No. 41100, Annual).
11. Motive Power and Car Equipment Statistics (I. C. C. Bureau of Transport Economics and Statistics Statement No. M-240, Monthly).
12. Passenger Traffic Statistics (Other than Commutation) of Class I Steam Railways (I. C. C. Bureau of Transport Economics and Statistics Statement No. M-250, Monthly).
13. Revenue freight loaded and received from connections (published weekly by the Association of American Railroads, Car Service Division).

Representation of Employees

Included in late National Mediation Board reports on disputes involving representation of employees is one involving road conductors on the Lehigh Valley. An election conducted by the mediator showed that 195 conductors wished to have the Order of Railway Conductors continue as their representative, while 108 voted for the Brotherhood of Railroad Trainmen.

Carmen, helpers and apprentices of the Philadelphia, Bethlehem & New England, who had not been represented by any union, voted for representation by the Brotherhood Railway Carmen of America. Yardmen, including foremen, helpers and switchtenders, of the Cornwall, who had not been represented by any union, voted for affiliation with the Brotherhood of Railroad Trainmen.

Elections held to settle disputes as to representation of machinists, boilermakers, blacksmiths, sheet metal workers, electrical workers, carmen, and helpers and apprentices of these crafts, as well as powerhouse employees and shop laborers, of the St. Louis-San Francisco resulted in a vote in favor of the Metal Crafts and Car Department Employees, Frisco Lines, of 640 to 623 in the case of the machinists and 54 to 38 in the case of electrical workers. Appropriate A. F. of L. unions were selected instead of the Frisco Lines metal crafts and car department union by the other classes of employees, the vote being 206 to 144 by the boilermakers, 117 to 47 by the blacksmiths, 130 to 109 by the sheet metal workers, 1018 to 557 by the carmen and coach cleaners, and 426 to 253 by the powerhouse employees and shop laborers.

An election held to decide whether the Order of Railway Conductors or the Brotherhood of Railroad Trainmen should be recognized as the representative of road conductors on the Pennsylvania resulted in a victory by the latter, the vote being 1680 to 1122. The O. R. C. had been the conductors' representative on this road before the election.

Justice Department Calls Off Rate "Fixing" Indictments

Yielding, according to a Department of Justice statement, to the request of the Secretaries of War and the Navy, and the director of the Office of Defense Transportation, Attorney General Biddle on January 4 announced that indictments prepared following the presentation of evidence to a grand jury in Chicago involving "abusive and coercive practices in private fixing of rates by motor and rail carriers" would be postponed. It was indicated that another consideration given considerable weight in reaching this decision was the extension by Congress for the duration of the war of the effective date of the statute of limitations.

In a lengthy letter expressing his "disapproval" of the indictments and asking that they not be presented to the grand jury, ODT Director Eastman emphasized the adverse effect such action would have on the essential wartime accomplishments of the carriers. He also expressed his opinion that the joint consideration of proposed rate changes and joint action in rate initiation by carriers are practices that have "many advantages" to the government and to the public. Even though there may be some objectionable features in some existing procedures, Mr. Eastman said, they "should be cured by Interstate Commerce Commission regulation, or by new legislation, but not by criminal prosecution or other court action."

Analyzing the Justice Department indictments, the ODT director wrote, "A study of the indictments reveals that they would go far beyond the purpose of punishing for flagrant abuses of the joint method of rate initiation, to which it was agreed that Department of Justice action was to be confined. On the contrary, it is my opinion that the indictments would challenge the whole system of joint rate initiation, which system is of such great value to us during the war, and would have other serious repercussions upon our already overtaxed transportation systems and their personnel. It is my considered judgment that these indictments should not be returned."

A supporting joint letter to Mr. Biddle from Secretary of War Stimson and Acting Secretary of the Navy Forrestal emphasized the adverse effect the indictments would have on the relations of the armed services with transportation agencies. "Following certain newspaper publicity relating to the grand jury investigation," this letter said, department representatives proposed to the Attorney General that the indictments returned should be limited to "flagrant abuses" of the existing tariff-making methods, such as boycotts or fomenting strikes. "You concurred in this view and made a public statement accordingly," the letter continued.

"The indictments as drafted are not limited to charges against flagrant abuses of the system," the two secretaries asserted, "except in the case of one subparagraph" in one indictment. "The remainder of the indictments allege in effect that the conference method of rate initiation is a violation of the anti-trust laws. Therefore, they attack, in effect, the rate bureau system, as such." The services of these bureaus are "constantly required by the War and Navy Departments," the letter adds, and "it would be a practical impossibility to take up with each individual railroad or motor carrier" adjustments and new rates constantly required by abnormal war conditions.

Some Trouble from High Water

High water in the Ohio river and its tributaries, reaching a crest stage at Pittsburgh of 36.6 ft. on December 31, caused some disruption of service on roads operating in that territory.

The Baltimore & Ohio, which operates over the Pittsburgh & Lake Erie tracks between McKeesport, Pa., and New Castle, was forced to abandon operation over the line on December 30. Trains were routed over the B. & O. old main line between those points. High water at Etna, Pa., forced complete abandonment of the B. & O. tracks at that point at 5 p. m. on December 30. The road had declared an embargo on livestock consigned to the Pittsburgh district earlier in the day. Through stock trains were sent into Cleveland and thence east over the New York Central. Some oil trains were routed over the Erie to Jersey City.

Passenger trains between Chicago and the east were routed both ways via the Pennsylvania between Urichsville and Bessemer, Pa. Cleveland trains left the B. & O. line at Connelsville, Pa., running over the tracks of the Pittsburgh & West

Virginia and the Wheeling & Lake Erie. All passenger trains on the northwest line of the B. & O. were late on an average of 5 hrs.

Service was restored over the P. & L. E. tracks through Pittsburgh and trains returned to their normal route at 3:57 a. m. on December 31. At the same time freight trains began operating over the B. & O. old main line through Pittsburgh. Service was restored at the Allegheny freight house at 3:30 p. m. on January 2.

On the southwest line of the B. & O. there was no disruption in traffic other than slight delays and slow orders. Diesel locomotives on the "National Limited" and the "Diplomat" ran only as far as Grafton, W. Va. While water at Cincinnati was 60½ ft. above normal, there was no interruption of service. The Smith street freight house and the Plum street produce terminal were reported under water, but other freight terminals in Cincinnati handled normal business.

Service into Wheeling, W. Va., was disrupted for a day due to water over the tracks between Wheeling and Benwood Junction. The line between Moundsville, W. Va., and Parkersburg, according to latest reports, was still out of condition because of high water at Wells Pit.

Operation of the lines of the Norfolk & Western and the Chesapeake & Ohio in the Ohio valley was not affected by flood conditions.

The Pennsylvania reported that high water, during the early stages affected to varying degrees the operation of eleven divisions in Pennsylvania and Ohio. A total of 318 miles of track on approximately 98 miles of line was under water, in addition to which there were a number of small washouts and minor landslides.

By January 4 all tracks—with the exception of the Marietta branch at Marietta, Ohio, which remains to be cleared of debris, and the River branch at Brilliant, Ohio, which is closed pending the completion of a trestle 270 ft. long which is being built to replace a washed-out fill—were restored to service, with some slow orders still in effect.

On the New York Central high water at Oriskany, N. Y., between Utica and Schenectady was reported, with no serious delay to operations.

Supply Trade

In recognition of "continued splendid achievement in outstanding production" the **American Steel & Wire Co.**, U. S. Steel subsidiary, has been granted a renewal of the Navy "E" award for excellence in production bestowed upon the company's Worcester, Mass., operations and employees on June 17, 1942. This renewal gives the company the right to add a white star to its Navy pennant.

Bennett S. Chapple, formerly assistant to the vice-president, operations, in charge of emergency defense coordination, has been appointed assistant manager of sales of the New York district sales office of the **Carnegie-Illinois Steel Corporation.** Mr. Chapple, before the emergency, was the company's manager of sales promotion. He is succeeded by Ross L. Leffler, who, in addition to his duties as special representative, will coordinate emergency defense measures in the company and cooperate with public authorities and defense agencies.

Arthur A. Frank Succeeds Walter P. Murphy

Arthur A. Frank, who has been elected president of the **Standard Railway Equipment Manufacturing Company,** Chicago, and allied companies to succeed Walter P. Murphy, as reported in the *Railway Age* of January 2, becomes the head of one of the important railway supply companies of the country and one which has been noted for its aggressiveness in improving its products. In succeeding Mr. Murphy, Mr. Frank will direct the activities of five companies, including the **Standard Railway Equipment Manufacturing Company,** of which he has been executive vice-president; the **Standard Railway Devices Company,** of which he has been vice-president;

Arthur A. Frank

the **Standard Railway Equipment Manufacturing Co. (Canada), Ltd.,** of which he has been executive vice-president; the **Standard Railway Equipment Company,** of which he has been president; and the **Railway Metal Products Company.**

Mr. Frank takes over his additional duties with a background of mechanical experience in actual railroad operation and long experience in the merchandising of products for railway use. After attending grammar school, he studied mechanical engineering and contract law. He entered railway service as a clerk in the transportation department of the Missouri Pacific, and after serving as a car distributor and as chief clerk, transferred to the mechanical department, where he worked as statistician and chief clerk. On April 14, 1911, he resigned to become secretary to Mr. Peter H. Murphy, who was then president of the P. H. Murphy Company (now part of the Standard Railway Equipment Manufacturing Company) and in 1913 was promoted to manager of the company's plant at New Kensington, Pa For three years, 1915-1917, he was sales agent of the Standard Railway Equipment Company at St. Louis, Mo., and in 1918 was elected vice-president in charge of sales of this company at Chicago. In January, 1921, he was elected president of this company and also vice-president of the Union Metal Products Company (now a part of the Standard Railway Equipment Manufacturing Company). On January 1, 1939, he was also elected executive vice-president of the Standard Railway Equipment Manufacturing Company, Chicago, and on December 22, 1942, he was elected president to succeed Mr. Murphy.

W. I. Galliher, formerly director of sales, has been appointed executive sales manager of the Columbia Chemical division of the **Pittsburgh Plate Glass Company** to succeed Eli Winkler, who continues with the company in the capacity of executive consultant.

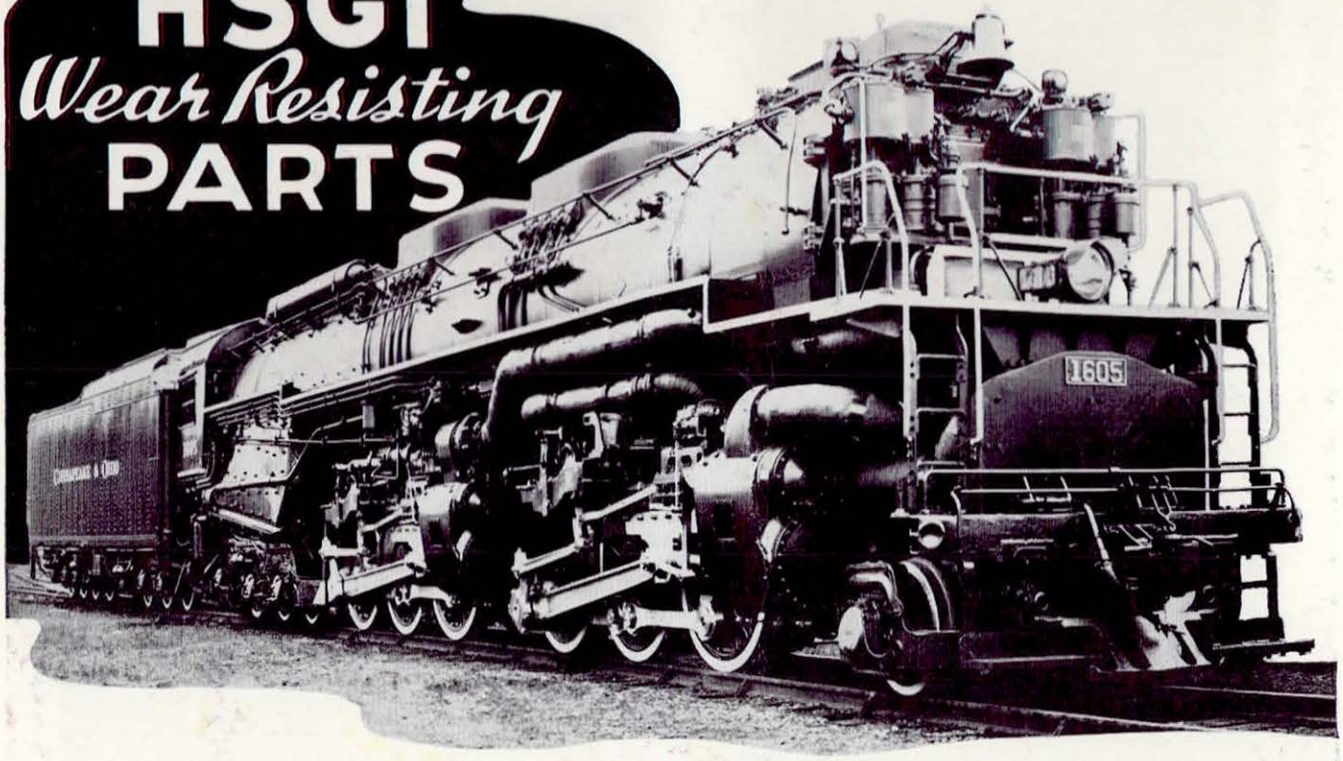
R. C. Wietersen has been appointed director of purchases for the **Buda Company.** For the past two years, Mr. Wietersen was director of purchases for the National Supply Company and for four years prior thereto he was associated in a similar capacity with the Hercules Motor Company. He previously had been with the Studebaker Corporation for 18 years.

W. A. Cramer, assistant traffic manager, western district, of the **United States Steel Corporation** subsidiaries, with headquarters at Chicago, has been promoted to traffic manager, western district, of this company's subsidiaries to succeed M. N. Billings who has retired after 39 years' service in the traffic department of the corporation's subsidiaries.

John E. Wright, formerly with the American Steel Foundries, has been appointed regional sales manager, railway division, of the **Edward G. Budd Manufacturing Company,** and will be in charge of a new office opened by the company in the Railway Exchange building in St. Louis, Mo. Mr. Wright is a graduate of George Washington University. His headquarters have been in St. Louis since 1926 when he took over the southwest territory

John E. Wright

HSGI *Wear Resisting* PARTS



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Cylinder Bushings
Cylinder Packing Rings
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Valve Bushings
Valve Packing Rings
Valve Bull Rings
Crosshead Shoes
Hub Liners
Shoes and Wedges
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Finished Parts

Dunbar Sectional Type Packing
Duplex Sectional Type Packing
for Cylinders and Valves
(Duplex Springs for Above
Sectional Packing)
Cylinder Snap Rings
Valve Rings, All Shapes
Light Weight Valves
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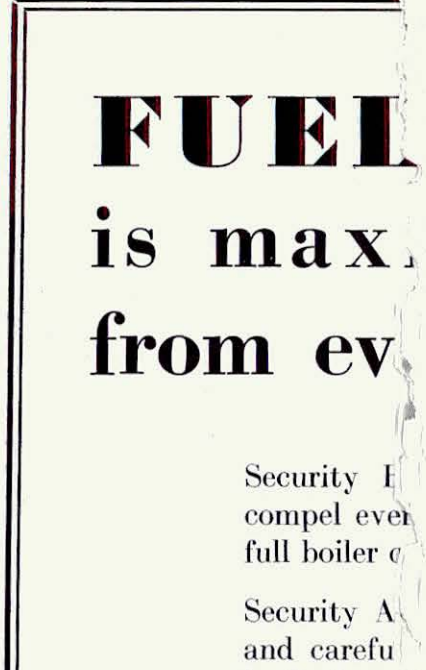

There's More to
SECURITY ARCHES
Than Just Brick

HARBISON-WAI
REFRACTORIES

Refractory Speci

Virginia and the Wheeling & Lake Erie. All passenger trains on the northwest line of the B. & O. were late on an average of 5 hrs.

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general agent, with the same headquart
succeeding **J. D. Healy**, who has
transferred to New Orleans, La.
Healy replaces **M. L. Craig**, who has
granted a leave of absence for mili
service.

W. J. Siering, general agent of
Missouri Pacific at Seattle, Wash.,
been transferred to San Francisco,
relieving **L. L. Smith**, who has
granted a leave of absence for mili
service. **G. B. Riggan**, division fre
and passenger agent at Monroe, La.,
been promoted to general agent at Sea
succeeding Mr. Siering.

A. A. Bolton, district manager of
ishable freight traffic of the Denver
Rio Grande Western at San Franci
Cal., has been promoted to general agen
that point, succeeding **C. J. Harbeke**,
has entered military service. **M. E. Ch**
general agent at Fresno, Cal., has
advanced to district manager of perish
freight at San Francisco, replacing
Bolton, and **R. E. Davis**, perish
freight agent at Los Angeles, Cal.,
been promoted to general agent at Fre
relieving Mr. Chase.

George Murray Campbell, coal tr
manager of the Baltimore & Ohio at
timore, Md., has been promoted to ge
freight traffic manager, succeeding O
S. Lewis, who has retired. **Clark**
Groninger, general freight agent at
Louis, Mo., succeeds Mr. Campbell as
traffic manager at Baltimore, and **John**
Hague, general freight agent at Wash
ton, D. C., has been transferred to
Louis, succeeding Mr. Groninger.
Hague is succeeded at Washington by
M. Brinker, assistant general fre
agent at Washington, and **John J. Col**
has been appointed to succeed Mr. Bri
as assistant general freight agent at W
ington.

ENGINEERING & SIGNALIN

H. C. Charlton has been appoi
crossing engineer of the Norfolk & W
ern, with headquarters at Roanoke, Va.
placing **H. F. Smith**, whose promotio
assistant engineer at Roanoke was
nounced in the *Railway Age* of Januat

Herbert R. Clarke, chief engi
maintenance of way of the Chicago,
lington & Quincy, the Colorado & So
ern, the Ft. Worth & Denver City and
Wichita Valley (Burlington Lines),
been promoted to chief engineer of the
lington Lines, with headquarters as be
at Chicago, succeeding **Frank T. Dari**
who retired on January 1. Mr. Cl
was born in Ireland on November 15,
He came to America with his parent
1888 and graduated from Monmouth
lege, Monmouth, Ill., in 1906. He ent
railroad service in 1906 as a chainma
the Missouri Pacific, later being prom
to rodman. In 1907 he went with
Chicago, Burlington & Quincy as a rod
later being advanced to instrumentman
to extra gang foreman. In July, 190
was appointed resident engineer on the

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF NOVEMBER AND ELEVEN MONTHS OF CALENDAR YEAR 1942

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income 1942	Net railway operating income 1941
Akron, Canton & Youngstown	Nov.	171	$302,799	$75	$318,588	$53,168	$28,237	$15,043	$91,215	$200,074	62.8	$118,514	$78,711	$66,521	$34,004
	11 mos.	171	3,015,323	913	3,151,907	584,756	323,189	167,241	898,504	2,103,606	66.7	1,048,301	730,552	576,198	621,320
Alton	Nov.	959	2,199,021	669,198	3,242,060	248,954	346,408	49,512	897,696	1,655,940	51.1	1,586,120	—1,196,356	—1,408,244	55,407
	11 mos.	959	20,662,526	4,972,505	28,565,825	2,869,601	3,759,284	550,007	9,586,027	17,855,500	62.5	10,710,325	4,571,665	2,461,584	1,733,579
Atchison, Topeka & Santa Fe System	Nov.	13,142	25,631,224	5,750,780	33,795,827	3,010,165	4,655,617	564,281	8,055,382	17,754,040	52.5	16,041,787	10,011,601	9,690,599	2,877,586
	11 mos.	13,310	258,241,450	46,334,802	325,204,388	32,903,657	49,155,154	5,425,258	87,625,989	180,020,327	55.4	145,184,061	76,813,918	74,213,034	36,323,095
Atlanta & West Point	Nov.	93	219,485	120,759	386,598	36,582	33,374	9,392	109,608	203,542	52.6	183,056	48,606	30,140	23,040
	11 mos.	93	2,278,882	941,952	3,576,880	340,463	383,324	102,280	1,114,177	2,095,036	58.6	1,481,844	778,323	577,080	222,170
Western of Alabama	Nov.	133	261,756	128,161	423,974	32,334	42,169	9,327	110,007	207,318	48.9	216,656	28,423	23,450	35,129
	11 mos.	133	2,626,246	969,972	3,932,615	343,760	470,910	99,489	1,144,189	2,201,219	56.0	1,731,396	846,750	784,595	297,426
Atlanta, Birmingham & Coast	Nov.	639	514,996	39,635	577,615	107,091	82,408	27,998	209,532	447,314	77.4	130,301	17,199	—19,851	—14,486
	11 mos.	639	4,788,566	382,409	5,442,494	710,361	741,879	291,898	2,083,420	4,026,502	74.0	1,415,992	745,218	389,807	221,936
Atlantic Coast Line	Nov.	4,993	8,226,000	2,929,730	11,810,931	749,879	1,332,602	160,697	2,879,604	5,419,091	45.9	6,391,840	2,391,840	2,125,946	670,891
	11 mos.	5,006	73,368,146	22,812,121	102,378,688	7,227,845	15,148,722	1,899,378	29,494,960	56,973,579	55.6	45,405,109	21,850,109	19,141,163	10,347,885
Charleston & Western Carolina	Nov.	343	306,693	18,228	231,558	29,356	46,491	10,082	98,044	189,807	57.2	141,751	66,751	69,738	45,417
	11 mos.	343	3,384,797	127,059	3,583,684	360,113	505,457	109,840	1,077,947	2,121,633	59.2	1,462,051	812,051	800,714	730,602
Baltimore & Ohio	Nov.	6,244	24,476,929	2,684,459	28,599,333	2,586,265	5,173,592	464,722	8,521,361	17,641,796	61.7	10,957,537	6,547,544	5,754,263	2,883,373
	11 mos.	6,255	242,739,945	23,945,337	280,080,991	25,480,312	57,250,120	5,033,454	88,846,660	185,816,181	66.3	94,264,810	61,462,747	54,589,200	44,385,115
Staten Island Rapid Transit	Nov.	24	159,671	86,362	255,097	12,642	21,730	1,149	89,644	141,604	55.5	113,493	80,680	73,780	—34,889
	11 mos.	24	1,366,633	946,620	2,418,996	191,291	278,601	12,992	990,737	1,637,878	67.7	781,118	473,875	363,181	—166,463
Bangor & Aroostook	Nov.	603	571,735	57,105	655,323	81,576	92,083	6,215	157,697	369,721	56.4	285,602	158,187	173,576	91,303
	11 mos.	603	5,195,704	544,391	6,035,276	1,075,457	1,044,043	66,374	1,621,880	4,109,359	68.1	1,925,917	1,029,208	1,262,034	1,192,153
Bessemer & Lake Erie	Nov.	214	1,859,973	1,124	1,876,428	164,886	476,289	13,826	313,844	1,003,735	53.5	872,693	37,222	137,247	613,931
	11 mos.	214	20,265,354	10,251	20,431,858	1,781,520	6,160,235	145,779	3,367,598	11,873,704	58.1	8,558,154	2,494,007	3,461,128	7,347,282
Boston & Maine	Nov.	1,842	4,793,656	1,249,410	6,641,999	800,441	939,301	74,934	2,196,391	4,208,785	63.4	2,433,214	1,734,240	1,455,029	468,188
	11 mos.	1,861	51,196,995	13,522,589	70,983,832	8,605,919	10,162,349	788,438	23,463,919	45,175,213	63.6	25,808,619	16,413,699	13,278,047	9,024,403
Burlington, Rock Island	Nov.	228	99,723	49,509	162,683	18,235	19,070	2,550	57,517	109,314	67.2	53,369	42,379	35,065	—11,993
	11 mos.	236	1,095,836	425,826	1,634,297	217,339	217,047	27,630	655,002	1,248,003	76.4	386,294	274,294	158,999	—35,448
Cambria & Indiana	Nov.	37	157,503	.....	157,575	14,075	61,143	419	16,253	97,572	61.92	60,003	—38,649	36,870	45,035
	11 mos.	37	1,921,803	.....	1,922,593	119,402	660,174	5,234	202,364	1,057,741	55.02	864,852	—123,612	692,909	796,408
Canadian Pacific Lines in Maine	Nov.	234	418,496	46,631	484,271	54,631	53,595	6,375	135,675	257,073	53.1	227,198	200,613	170,285	—23,158
	11 mos.	234	3,903,879	613,538	4,730,286	601,009	599,279	73,381	1,397,705	2,747,614	58.1	1,982,672	1,779,492	1,501,791	521,460
Canadian Pacific Lines in Vermont	Nov.	90	88,246	17,013	121,962	27,092	43,780	2,311	88,564	165,252	135.5	—43,290	—51,743	—76,592	—73,420
	11 mos.	90	1,029,223	140,950	1,314,088	296,509	292,854	26,453	891,615	1,546,320	117.7	—232,232	—322,003	—598,653	—438,333
Central of Georgia	Nov.	1,815	2,245,494	605,450	3,029,507	244,202	382,578	66,432	858,006	1,660,984	54.8	1,368,523	1,043,864	999,121	187,579
	11 mos.	1,815	20,443,961	4,233,583	26,584,344	2,621,692	3,996,225	675,906	8,811,095	17,209,339	64.7	9,375,005	7,204,155	6,922,546	3,867,512
Central of New Jersey	Nov.	660	4,000,426	561,090	4,841,871	401,720	982,224	44,823	1,794,607	3,333,453	68.9	1,508,418	1,161,780	913,966	210,657
	11 mos.	661	43,553,021	6,076,318	52,549,735	5,377,638	8,882,741	515,054	19,800,972	35,788,531	68.1	16,761,204	11,577,046	8,393,424	4,704,138
Central Vermont	Nov.	422	606,844	52,000	706,564	86,020	102,724	10,919	255,410	480,224	68.0	226,340	194,933	142,350	123,130
	11 mos.	422	6,361,835	692,000	7,513,575	965,787	1,078,201	121,601	2,925,871	5,338,972	71.1	2,174,603	1,823,316	1,304,781	1,326,658
Chesapeake & Ohio	Nov.	3,102	14,239,253	1,253,239	16,087,390	1,295,922	2,679,443	222,348	3,635,478	8,224,962	51.1	7,862,428	3,030,289	3,300,651	6,384,315
	11 mos.	3,117	150,920,866	9,862,972	166,641,327	14,917,289	27,822,704	2,428,111	37,923,324	87,201,725	52.3	79,439,602	30,807,005	33,689,339	45,272,707
Chicago & Eastern Illinois	Nov.	913	1,504,576	449,250	2,156,566	222,725	302,637	57,900	669,724	1,339,393	62.1	817,173	512,173	383,257	52,100
	11 mos.	921	15,968,060	3,594,975	21,523,867	2,170,363	3,543,773	654,820	7,170,056	14,414,432	67.0	7,109,435	4,829,435	3,337,811	1,748,481
Chicago & Illinois Midland	Nov.	131	459,942	1,047	482,840	42,564	67,313	20,028	115,097	267,738	55.5	215,102	86,789	88,744	106,157
	11 mos.	131	5,317,088	9,408	5,578,246	606,306	862,730	234,742	1,353,722	3,301,192	59.2	2,277,054	971,379	899,003	980,801
Chicago & North Western	Nov.	8,125	9,071,156	1,964,773	12,129,130	1,750,379	1,950,345	197,455	3,741,005	8,057,915	66.4	4,071,215	2,521,130	2,428,612	358,327
	11 mos.	8,224	96,872,817	18,079,336	125,957,757	16,813,084	21,596,890	2,159,446	41,271,416	86,179,480	68.4	39,778,277	25,025,139	23,168,698	16,055,076
Chicago, Burlington & Quincy	Nov.	9,042	12,840,892	2,199,967	16,464,263	1,799,105	2,146,121	239,824	4,213,900	8,865,754	53.8	7,598,509	4,392,628	4,126,178	1,145,673
	11 mos.	9,081	119,176,702	16,958,211	149,006,077	18,329,133	21,427,358	2,761,909	41,917,116	88,957,440	59.7	60,048,637	34,600,527	32,550,439	17,673,328
Chicago Great Western	Nov.	1,505	1,843,694	163,628	2,185,924	322,126	251,481	60,907	705,032	1,399,675	64.0	786,249	662,372	484,527	235,183
	11 mos.	1,505	20,148,641	1,413,925	23,080,872	2,732,702	2,980,811	673,568	7,821,573	14,894,902	64.5	8,185,970	5,123,757	3,102,965	2,726,007
Chicago, Indianapolis & Louisville	Nov.	549	876,826	93,802	1,041,653	119,603	156,982	29,625	308,825	650,660	62.5	390,993	349,653	291,846	244,106
	11 mos.	549	9,112,951	736,746	10,594,368	1,144,495	1,857,569	326,514	3,357,240	7,083,230	66.9	3,511,138	2,985,378	2,324,606	1,996,442

Table continued on second right-hand page

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John E. Wright

as the representative of the American Steel Foundries.

P. J. Sullivan, who has been promoted to sales agent of the American Steel Foundries, Chicago, with headquarters at St. Louis, Mo., effective January 1, as reported in the *Railway Age* of December 26, entered the employ of the traffic department of this company at Chicago on No-

P. J. Sullivan

vember 25, 1905, and was later appointed assistant chief clerk in the order department. On December 13, 1921, he was promoted to manager of the order department, which position he has held until his recent promotion.

E. J. McQuaid (the name was misspelled in the *Railway Age* of December 26) succeeds Mr. Sullivan as manager of the order department. He was born in New York and entered the employ of the American Steel Foundries on April 6, 1920. On June 1, 1942, he was promoted to as-

E. J. McQuaid

sistant manager of the order department, which position he has held until his recent promotion.

OBITUARY

Colonel Paul Weeks, for many years associated with the Holt Manufacturing Company and the Caterpillar Tractor Company, died in Kenwood, Chevy Chase, Maryland, December 20.

Abandonments

Atlantic Coast Line.—This company has been authorized by Division 4 of the Interstate Commerce Commission to abandon its branch line from a point near Kissimmee, Fla., to Narcoossee, 13.8 miles.

Atchison, Topeka & Santa Fe.—Upon petition of protestants following publication of the examiners proposed report recommending approval of abandonment of this company's lines from Benedict Junction, Kans., to Madison Junction, and from Eureka, Kans., to Moline, the Interstate Commerce Commission, Division 4, has reopened the proceedings for further hearing at Washington, D. C., at a time to be designated later.

Atchison, Topeka & Santa Fe.—This company and its subsidiary, the Elkhart & Santa Fe, have been authorized to abandon operation of and to abandon, respectively, lines from Boise City, Okla., to Clayton, N. M., 42.37 miles, and from Mt. Dora, N. M., to Farley, 35.64 miles. Authority also is granted the A. T. & S. F. to abandon operation under trackage rights over the Colorado & Southern between Clayton, N. M., and Mt. Dora, 17.34 miles. The lines involved were parts of a projected second main line from Dodge City, Kans., to Colmor, N. M., for use as a shorter through passenger route to the Pacific coast avoiding the grades and curvature of the present main line via Raton Pass. Before it was completed the existing line was so improved that need for such an alternate line disappeared, the commission report states, while local traffic proved inadequate to support the segments that were built, which the company now is authorized to abandon.

Atlantic Coast Line.—This road and the Tampa Southern have applied to the Interstate Commerce Commission for authority, respectively, to abandon operation of and abandon a portion of the latter's Ellenton Belt, extending from a point 2,000 ft. east of Palmetto Wye to a point 2,000 ft. west of Reeder, 4.93 miles in Manatee County, Fla. Also, all of the so-called Saw Grass Spur, extending from Seth on the Belt to the end of the track, 3.41 miles.

Atlantic Coast Line-Louisville & Nashville.—Division 4 of the Interstate Commerce Commission has authorized these roads to abandon operation of, and the Carolina, Clinchfield & Ohio, lessor, to abandon, a line from Clinchfield, Va., to Wilder, 6.05 miles, together with a spur connection from Hurricane Junction, Va., to Shaft, 1.2 miles.

Chicago, Milwaukee, St. Paul & Pacific.—This road and the Chicago, Terre Haute & Southeastern have been authorized by Division 4 of the Interstate Commerce Commission to abandon operation of and to abandon, respectively, a portion of a branch line from a point near Blackhawk, Ind., to Hymera, 6 miles.

Chicago, Rock Island & Pacific.—In a proposed report in Finance Docket 13928 Examiner R. Romero recommends that the Interstate Commerce Commission authorize this road to abandon its branch from Stockton, Iowa, to Tipton, 21.66 miles.

Gulf & Northern.—This road has applied to the Interstate Commerce Commission for authority to abandon its entire line from Wiergate, Texas, to Newton, 14.8 miles.

Illinois Central.—Upon petition of protestants for rehearing, the Interstate Commerce Commission by Commissioner Porter has extended for 30 days the effective date of the certificate of December 8, 1942, authorizing this company to abandon a line from Potomac, Ill., to Hedrick, Ind., 16.27 miles.

Long Island.—Division 4 of the Interstate Commerce Commission has authorized this road to abandon its branch from Bethpage Junction, N. Y., to Bethpage, 1.56 miles.

Louisville & Nashville.—At the request of this company, Division 4 of the Interstate Commerce Commission has dismissed without prejudice its application for authority to abandon its line from Shelbyville, Ky., to Bloomfield, 27 miles.

Missouri Pacific.—*Louisiana & Arkansas.*—At the request of the applicants, Division 4 of the Interstate Commerce Commission has dismissed without prejudice the request of these companies and the New Orleans, Texas & Mexico for authority to abandon certain trackage in the vicinity of Baton Rouge, La., and to operate over a bridge at that point.

New York Central.—Division 4 of the Interstate Commerce Commission has authorized this company and the Michigan Central, lessor, to abandon operation of and to abandon, respectively, a 3.98-mile electric line within the corporate limits of Grand Rapids, Mich.

New York, New Haven & Hartford.—Division 4 of the Interstate Commerce Commission has authorized this road to abandon a line from Northampton, Mass., to Cheapside, 17.05 miles.

Northern Pacific.—Division 4 of the Interstate Commerce Commission has authorized this road to abandon its line from Harrison, Mont., to Pony, 6.25 miles.

Pennsylvania.—This road has applied to the Interstate Commerce Commission for authority to abandon two segments of its Pomeroy branch, one from Chatham, Pa., to a point near Avondale, 2.72 miles, and one from Avondale, Pa., to Landenberg, 3.75 miles.

Rio Grande & Eagle Pass.—At the request of this company, Division 4 of the Interstate Commerce Commission has dismissed without prejudice its application for authority to abandon its line from Laredo, Tex., to a point 1 mile southeast of Gardner, 21.47 miles.

Zanesville Terminal.—Division 4 of the Interstate Commerce Commission has authorized this company to abandon 1,238 feet of line within the corporate limits of Zanesville, O.

Financial

ATCHISON, TOPEKA & SANTA FE.—*Lease of Rio Grande, El Paso & Santa Fe.*—Division 4 of the Interstate Commerce Commission has authorized the Panhandle & Santa Fe to lease and operate the properties of the Rio Grande, El Paso & Santa Fe, both companies being controlled by the Atchison, Topeka & Santa Fe through ownership of all their stock except directors' qualifying shares. The Rio Grande, El Paso & Santa Fe heretofore has been operated under lease by the owning company, and the change in lessees is made to relieve that company of any liability under the Texas franchise tax act. The terms of the new lease are substantially identical with those of the old, except that certain changes in accounting methods affecting depreciation charges are provided.

CENTRAL OF GEORGIA.—*Interest Payment Halted.*—The United States district court at Savannah, Ga., on December 29, granted a temporary stay on the payment of past due interest on bonds of this railroad (previously authorized on December 23) at the request of the Central Bank & Trust Co. of New York, trustee for the Central R. R. & Banking Co. of Georgia collateral trust bonds due May 1, 1942, pending determination of an appeal by the bank. The temporary halt affected the scheduled payment of interest on the railroad's first mortgage and consolidated mortgage bonds.

DELAWARE, LACKAWANNA & WESTERN. —*Plea to Stop Rental Payment Refused.* —The United States district court at New York, on December 30, refused to prohibit the payment of $120,000 by the Delaware, Lackawanna & Western, lessee, to 1,202 stockholders of the Utica, Chenango & Susquehanna Valley. The restraining order was asked by the government pending determination of a suit to collect income taxes of about $434,194 claimed as due on prior rental payments. (Previous item —*Railway Age* of November 21, 1942, page 864.)

LOUISVILLE & NASHVILLE. — *Sinking Fund.*—Division 4 of the Interstate Commerce Commission has authorized this company to pay into the sinking fund provided for the issue, bonds of its first and refunding mortgage, 3¾ per cent, series E, purchased with treasury funds. Such payments may be made in advance of the dates required under the mortgage to bring about a reduction in outstanding indebtedness.

DELAWARE, LACKAWANNA & WESTERN. —*Sued With Morris & Essex for Income Taxes.*—The United States Government, on December 31, filed suit in the U. S. district court at New York against the Delaware, Lackawanna & Western and one of its leased roads, the Morris & Essex, to collect $2,114,084 in income taxes and assessments claimed as due for the years 1933 to 1941 on returns of the Morris & Essex. The government's income tax assessments are based on rental payments by the Lackawanna directly to Morris & Essex stockholders and on additional income resulting to the M. & E. by reason of the Lackawanna's obligation to pay its income taxes. The government seeks $2,114,084 from both railroads or, as an alternative, $1,751,940 from the M. & E. if the court decides the Lackawanna not liable for the taxes. The government also seeks to compel the payment of taxes before the distribution of dividends to M. & E. stockholders.

NEW YORK CENTRAL.—*Leased Line Depreciation Accounting Practices.*—Division 4 of the Interstate Commerce Commission has authorized modification of the terms of the leases of the properties of the Michigan Central and the Cleveland, Cincinnati, Chicago & St. Louis to the New York Central to provide for depreciation accounting for fixed property as required by the commission's mandatory accounting order effective January 1, 1943.

RUTLAND.—*Reorganization Proposed.*—This company, in receivership since May, 1938, has applied to the federal district court in Vermont and to the Interstate Commerce Commission for authority to undertake reorganization under section 77 of the bankruptcy act, pointing out that the plan of the receiver for revising its financial set-up has not been assented to by a sufficient proportion of its creditors to become effective.

SOUTHERN PACIFIC.—*Equipment Trust.* —Division 4 of the Interstate Commerce Commission has authorized this company to assume liability for $3,950,000 of equipment trust certificates, series U, to be issued to finance in part the purchase of 22 locomotives. The certificates will mature serially in 10 equal annual installments, the five first due to bear interest at two per cent and the others at 2½ per cent. Sale to the highest bidder, Harris, Hall & Company, at 99.091 and accrued dividends, representing an annual cost to the company of 2.54 per cent, is approved.

UNION PACIFIC.—*Installment Notes.*— This company has applied to the Interstate Commerce Commission for authority to issue $4,100,098 in notes payable in monthly installments to be delivered to banks holding outstanding conditional sales contracts covering equipment purchases.

Average Prices of Stocks and Bonds

	Jan. 5	Last week	Last year
Average price of 20 representative railway stocks..	29.31	27.94	28.05
Average price of 20 representative railway bonds..	68.99	67.97	64.30

Dividends Declared

Clearfield & Mahoning.—$1.50, semi-annually, payable January 2 to holders of record December 17, 1942.

Massawippi Valley.—$3.00, semi-annually, payable February 1 to holders of record December 31, 1942.

Oahu Railway & Land.—Year-end, 60¢, payable December 15, 1942, to holders of record December 4, 1942.

Paterson & Hudson River.—$1.75, semi-annually, payable January 15 to holders of record January 9.

Pittsburgh, Cincinnati, Chicago & St. Louis.—$2.50, semi-annually, payable January 20 to holders of record January 9.

Rome & Clinton.—$2.00, semi-annually, payable January 2 to holders of record December 21, 1942.

Equipment and Supplies

New York Central Orders 25 Steam Locomotives

The New York Central has placed an order for 25 steam locomotives of 4-8-2 wheel arrangement with the Lima Locomotive Works. The War Production Board's authorization for the building of these locomotives has been received, and deliveries are expected in July and August. The railroad is currently receiving deliveries on 25 locomotives of the same type ordered from the Lima Locomotive Works in February, 1942. The inquiry for the 25 new engines was reported in the *Railway Age* of September 19, 1942.

Frisco Asks to Spend $3,103,485

The St. Louis-San Francisco has filed a petition in the District Court seeking permission to spend $3,103,485 in 1943 for rails, equipment and improvements. The road plans to lay 120 miles of new rails in Alabama, Kansas, Missouri and Oklahoma; make roadbed repairs and improvements; improve freight cars; modernize passenger equipment; and purchase new parts for 165 locomotives. Of the total, $2,711,418 will be for the Frisco and the remainder will be spent on subsidiaries, including $272,981 for the Kansas City, Ft. Scott & Memphis and $119,086 for the Kansas City, Memphis & Birmingham.

FREIGHT CARS

The WESTERN MARYLAND is inquiring for 25 flat cars of 70 tons' capacity.

The ATCHISON, TOPEKA & SANTA FE is inquiring for a total of 1,000 new freight cars including the following: 300 steel Hart selective ballast cars of 70 tons' capacity; 300 flat cars of 50 tons' capacity; 200 52-ft. 6-in. composite drop-end gondola cars of 70 tons' capacity; and 200 composite twin hopper cars of 50 tons' capacity.

SIGNALING

THE ATCHISON, TOPEKA & SANTA FE has placed orders with the Union Switch & Signal Co. for centralized traffic control equipment to be installed on 102 miles of single track and 12 miles of double track between Los Angeles, Calif., and San Diego. The territory will be handled by two control machines. One, located at Fullerton, will control 38 miles of track, involving 80 working levers for 29 switches, 38 electric locks and 68 signals, and the other, located at Oceanside, will control 79 miles of track, involving 131 working levers for 43 switches, 47 electric locks and 114 signals. Both machines are being equipped with train graphs. Provision is being made to signal the double track territory for reverse running. The orders call for M-22A electric dual control switch machines, T-21 switch movements equipped with SL-21 electric locks, and H-2 searchlight sig-

nals and instrument housings which include the necessary relays, rectifiers, and transformers. Field work will be carried out by the railway company's regular construction forces.

Railway Officers

EXECUTIVE

Benjamin F. Parsons, assistant to the president and secretary of the Chicago Great Western, has been elected vice-president and secretary, with headquarters as before at Chicago.

Earl B. Moffatt, whose appointment as assistant to the president of the Delaware, Lackawanna & Western, at New York, with supervision over the purchasing, stores and the dining car department was announced in the *Railway Age* of December 26, was born on June 29, 1890, at Dunmore, Pa. Mr. Moffatt entered railroad service in February, 1906, as clerk and stenographer in the car service department of the Delaware, Lackawanna & Western. He became secretary to the superintendent of the Morris and Essex division in 1908, and in 1910 was advanced to chief clerk to the assistant general superintendent. In January, 1912, he became assistant chief clerk to the general superintendent, and in March, 1917, he was promoted to chief clerk to the vice-president and general manager. From March, 1918, to March, 1920, during federal control of the railroads, he served as assistant to the federal manager, and following federal control, became assistant to the vice-president and general manager of the Delaware, Lackawanna & Western. In August, 1926, Mr. Moffatt was promoted to general superintendent at Scranton, Pa., which position he was holding at the time of his recent appointment.

Earl B. Moffatt

FINANCIAL, LEGAL AND ACCOUNTING

O. D. Weaver, auditor of the Fort Worth & Denver City, and the Wichita Valley, has been promoted to treasurer of both companies, with headquarters at Fort Worth, Tex.

Charles Clark, general attorney of the Southern, has been appointed general attorney in charge of commerce matters, succeeding **W. N. McGehee,** whose death was announced in the *Railway Age* of January 2.

F. J. Krecek, auditor of equipment service accounts for the Union Pacific with headquarters at Omaha, Neb., has been promoted to auditor of disbursements, succeeding **E. J. Doolin,** who retires. **R. L. Hilker,** chief clerk to the auditor of equipment service accounts, has been advanced to auditor of that department.

William J. Milroy, attorney, Chicago, has been appointed general attorney, and **Thomas J. Barnett,** attorney, Chicago, has been promoted to assistant general attorney for the Santa Fe. The appointment of **Francis J. Steinbrecher,** formerly engaged in private practice at Aurora, Ill., as attorney at Chicago, was also announced.

T. P. Scott, assistant freight claim agent of the Erie, has been promoted to freight claim agent, with headquarters as before at Cleveland, Ohio, succeeding **Augustus E. Pasman,** who retires after fifty-seven years service. Mr. Pasman was born at New York, on December 16, 1870, entering railroad service in February, 1886, as a messenger in the coal freight office of the New York, Lake Erie & Western, (now the Erie). He served in several clerical positions until January, 1903, when he became traveling agent, freight claim office. In December, 1917, Mr. Pasman was advanced to special investigator for the same office and, one year later, was appointed supervisor, freight claim prevention. From November, 1922, to February, 1927, he served as freight claim adjuster, being advanced to freight claim agent in April, 1931, with headquarters at Cleveland, which position he held until his retirement.

Kenneth C. Sawin, assistant general claim agent of the Illinois Central, has been promoted to general claim agent, with headquarters as before at Jackson, Miss. **Samuel M. Copp,** general claim agent at Chicago, retired because of ill health on January 1. **William J. Heckmann,** chief clerk of the claim department at Chicago, has been appointed assistant general claims attorney at Chicago, a newly created position. Mr. Copp was born at New Orleans, La., on April 2, 1884, and was educated at Tulane college. He entered railroad service as a stenographer in the operating department of the New Orleans & Northwestern (now the Southern). He served in various capacities before going to the Illinois Central at Memphis, Tenn., as claim agent, being promoted in 1912 to district claim agent, a position he held until 1919 when he was advanced to assistant general claim agent with headquarters in Chicago. In March, 1925, he was promoted to general claim agent.

J. Scott Conover, assistant comptroller of the New York Central system at New York, has retired from that position. Mr. Conover, who is 65 years old, began his railroad career with the New York Central on January 1, 1898, as a clerk in the office of the vice-president. Afttr a brief period of service, he left the company to serve in the Spanish-American War. Upon his return from war service he served for a short time in the offices of the vice-president and the superintendent of motive power, and in 1900 was transferred to the accounting department under the auditor of disbursements. On March 1, 1909, he accepted the position of chief clerk to the auditor of miscellaneous accounts and on June 16, 1911, was promoted to assistant auditor miscellaneous accounts. In May, 1922, Mr. Conover was promoted to assistant auditor of revenue and on December 1, 1925, was further advanced to auditor of revenue. In August, 1932, Mr. Conover became assistant general auditor, revenues, holding this position until his appointment as assistant comptroller in April, 1938.

OPERATING

J. S. Davis has been appointed trainmaster of the St. Lawrence, Ottawa and Adirondack divisions of the New York Central, with headquarters at Watertown, N. Y.

W. J. Meyer has been appointed assistant superintendent of the Chicago division of the Chicago, Burlington & Quincy, with headquarters at Chicago, succeeding **Harry E. Ruggles,** who has retired after nearly fifty years service.

J. A. Humble, trainmaster at Portland, Ore., of the Northern Pacific, has been appointed to the newly created position of assistant manager of the Northern Pacific Terminal Company with headquarters in Portland. He is succeeded by **E. W. Reece,** yardmaster.

Ralph O. Jensen, assistant superintendent of the Minneapolis, St. Paul & Sault Ste. Marie at Schiller Park, Ill., has been granted a leave of absence for military service and has been commissioned a major in the 725th Railway Operating Battalion (Military Railway Service), Transportation Corps.

C. F. Larson, superintendent of safety of the Missouri Pacific Lines, with headquarters at St. Louis, Mo., retired on January 1. He was appointed superintendent of safety of the Missouri Pacific in the latter part of 1925, and in April, 1933, his jurisdiction was extended over the lines in Texas and Louisiana.

Ben L. Stanfiel, superintendent of the Knoxville-John Sevier terminals of the Southern, has been promoted to assistant superintendent of the Knoxville division, with headquarters as before at Knoxville, Tenn. **John M. Clark,** terminal trainmaster at Knoxville, has been promoted to succeed Mr. Stanfiel as superintendent of the Knoxville-John Sevier terminals.

G. E. Palmer, car service agent of the Temiskaming & Northern Ontario, with

News Department continued on next left-hand page

STEAM POWER IS STILL SUPREME

Food will help win the war!

IT MUST BE KEPT MOVING

Because of the tremendous demands being made upon American agriculture today . . providing food for us, our fighting men and our allies . . . it is vitally essential that the products of the Mid-West — its wheat, corn, livestock, etc., — reach the markets of America and the world.

In this job the railroads are playing an important part. Illustrated above is one of the Kansas City Southern Railroad's 2-10-4 type fast freight locomotives. Built by Lima Locomotive Works, these modern Steam Locomotives are daily hauling essential food products to domestic markets and to docks and wharves for transshipment to our allies and fighting men.

Steam Power is still supreme . . . helping to keep the United Nations' "larders" filled.

LIMA LOCOMOTIVE WORKS LIMA LOCOMOTIVE WORKS INCORPORATED INCORPORATED, LIMA, OHIO

headquarters at North Bay, Ont., has retired on pension and the position of car service agent has been abolished. **W. A. Griffin** has been appointed transportation assistant at North Bay, with jurisdiction over transportation motters and the car service matters which were formerly handled by the car service agent.

W. H. Clausen, assistant superintendent of the Minneapolis, St. Paul & Sault Ste. Marie, at Fond du Lac, Wis., has had his jurisdiction extended to include Schiller Park, Ill., and Chicago, succeeding to the duties of **Ralph O. Jenson,** assistant superintendent at Schiller Park, who has been granted a leave of absence for military service as reported in the *Railway Age* of January 2.

J. P. Kreiter, telegraph and telephone engineer of the Erie, with headquarters at Jersey City, N. J., has been promoted to acting superintendent of telegraph and telephone, with headquarters at Cleveland, Ohio, succeeding **F. H. Menagh,** who has been granted a leave of absence to accept a commission in the U. S. Army. **G. D. Poole** has been appointed telegraph and telephone engineer, with headquarters at Cleveland, Ohio.

Joseph R. Thexton, terminal trainmaster of the Delaware, Lackawanna & Western, has been promoted to superintendent of the Morris and Essex division, with headquarters as before at Hoboken, N. J., succeeding **Perry M. Shoemaker,** whose promotion to general superintendent at New York was announced in the *Railway Age* of December 26. **Charles O. Dexter,** night general yardmaster at Hoboken, has been promoted to terminal trainmaster to succeed Mr. Thexton.

T. J. Hale has been appointed assistant superintendent of the Chattanooga and Huntsville divisions of the Nashville, Chattanooga & St. Louis, with headquarters at Chattanooga, Tenn. **F. E. Carpenter** has been appointed assistant superintendent of the Nashville and the Paducah and Memphis divisions, with headquarters at Memphis, Tenn. **G. S. Tally** has been appointed trainmaster of the Chattanooga and Huntsville divisions, with headquarters at Nashville, Tenn.

William Manson, superintendent of transportation of the Western lines of the Canadian Pacific, with headquarters at Winnipeg, Man., has been appointed general superintendent of the British Columbia district, a position that was re-established on January 1, with headquarters at Vancouver, B. C. **A. B. Burpee** has been appointed superintendent of transportation, Western lines, at Winnipeg, succeeding Mr. Manson. A biography of Mr. Manson was published in the *Railway Age* of September 12, 1942, page 431, following his promotion to superintendent of transportation.

George Benson Daniel, whose appointment as superintendent of the Virginian, with headquarters at Victoria, Va., was announced in the *Railway Age* of December 26, 1942, was born on March 5, 1891, at Roanoke, Va. Mr. Daniel entered railroad service on May 1, 1905, as an employee of the Norfolk & Western. On February 27, 1907, he became telegraph operator of the Radford division, leaving the Norfolk & Western on March 7, 1910, to go with the Virginian as telegraph oper-

George B. Daniel

ator and station agent of the New River division. Remaining with the New River division, he subsequently served as train dispatcher and chief dispatcher, and on June 11, 1934, was appointed trainmaster of the Norfolk division, being transferred to the New River division on September 1, 1938. Mr. Daniel was appointed assistant superintendent of the New River division on July 20, 1942, and remained in that position until his recent promotion to superintendent of the Norfolk division.

Nathan Hale Lockney, whose promotion to superintendent of the Knoxville and Atlanta division of the Louisville & Nashville, with headquarters at Knoxville, Tenn., was reported in the *Railway Age* of December 5, was born in Waukesha, Wis., on October 25, 1880, and entered

Nathan Hale Lockney

railway service in 1898 as a telegraph operator of the Chicago, Milwaukee, St. Paul & Pacific. A year later, he went with the Minneapolis, St. Paul & Saulte Ste. Marie and on January 1, 1906, he went with the L. & N. as a telegraph operator at Nashville, Tenn. In October, 1906, he was promoted to dispatcher and in 1912 he was advanced to night chief dispatcher. In 1916 he was promoted to chief dispatcher and in 1923 he was appointed assistant trainmaster at Nashville. Mr. Lockney was advanced to trainmaster, with headquarters at Latonia, Ky., in 1928 and on September 1, 1936, he was promoted to assistant superintendent at Middlesboro, Ky., which position he held until his recent promotion, effective November 20.

Samuel J. Frazier, whose promotion to assistant general manager of the St. Louis-San Francisco was announced in the *Railway Age* of December 19, was born on May 5, 1886, at Van Buren, Mo., and entered railroad service in 1900 with the Kansas City, Fort Scott & Memphis, now part of the St. Louis-San Francisco. He worked in clerical capacities until 1910, when he was appointed chief dispatcher. Four years later he was promoted to assistant superintendent at Chaffee, Mo., and in January, 1926, became superintendent at Enid, Okla. In August, 1928, Mr. Frazier was transferred to the Southern division at Memphis, Tenn., being advanced to assistant superintendent of transportation at Springfield, Mo., on December 1, 1937. On August 18, 1938, he was appointed assistant to the general manager, with the same headquarters, a position he held until the new promotion.

TRAFFIC

L. Marchand, industrial agent of the Canadian National, has been appointed industrial engineer of the Quebec district, with headquarters at Quebec, Que.

J. M. Peters, division freight agent of the Chicago & North Western at Omaha, Neb., has been appointed industrial agent with headquarters in Chicago.

Ernest W. Croonquist, traveling freight agent of the New York Central System, has been appointed district freight agent of the New York, Ontario & Western, with headquarters at Scranton, Pa.

H. M. Braswell, general freight agent of the Ashley, Drew & Northern, has been appointed traffic manager, with headquarters as before at Crossett, Ark., succeeding **V. A. Roane,** who has retired from that position.

Charles H. Brady has been appointed assistant manager of mail, baggage and express traffic of the Chicago, Burlington & Quincy at Chicago, succeeding **J. D. Baker,** whose retirement on October 31 was reported in the *Railway Age* of November 14.

Frank E. Wallace, district freight agent of the Illinois Central at New Orleans, La., has been promoted to general freight agent, with the same headquarters. **Andrew J. Moore,** chief clerk of the freight traffic department at New Orleans, has been advanced to assistant general freight agent, with the same headquarters.

W. C. Rennick, traveling freight agent of the Texas & Pacific, with headquarters at Birmingham, Ala., has been promoted to

News Department continued on next left-hand page

HOW TO AVOID REPAIR PART DELAYS

PROPER compliance with the regulations of the War Production Board is the first step towards getting repair parts promptly.

Verbal Orders cannot be accepted. The W.P.B. insists that shipment be made only against written orders showing a properly certified preference rating, end use symbols and required delivery date.

Since all material purchased is on the critical list and thus comes under the jurisdiction of W.P.B., we cannot enter the order until it contains all the required information.

Furthermore, all scheduling is based on priority rating so that an order with A-1-J rating, for example, is subordinate to a higher rating.

Therefore to expedite delivery we suggest you request the highest rating to which you are entitled.

Help us speed the shipment of repair parts by conforming with the W.P.B. regulations in every detail.

FRANKLIN RAILWAY SUPPLY COMPANY, INC. NEW YORK CHICAGO
In Canada: FRANKLIN RAILWAY SUPPLY COMPANY, LIMITED, MONTREAL

general agent, with the same headquarters, succeeding **J. D. Healy,** who has been transferred to New Orleans, La. Mr. Healy replaces **M. L. Craig,** who has been granted a leave of absence for military service.

W. J. Siering, general agent of the Missouri Pacific at Seattle, Wash., has been transferred to San Francisco, Cal., relieving **L. L. Smith,** who has been granted a leave of absence for military service. **G. B. Riggan,** division freight and passenger agent at Monroe, La., has been promoted to general agent at Seattle, succeeding Mr. Siering.

A. A. Bolton, district manager of perishable freight traffic of the Denver & Rio Grande Western at San Francisco, Cal., has been promoted to general agent at that point, succeeding **C. J. Harbeke,** who has entered military service. **M. E. Chase,** general agent at Fresno, Cal., has been advanced to district manager of perishable freight at San Francisco, replacing Mr. Bolton, and **R. E. Davis,** perishable freight agent at Los Angeles, Cal., has been promoted to general agent at Fresno, relieving Mr. Chase.

George Murray Campbell, coal traffic manager of the Baltimore & Ohio at Baltimore, Md., has been promoted to general freight traffic manager, succeeding **Omer S. Lewis,** who has retired. **Clark M. Groninger,** general freight agent at St. Louis, Mo., succeeds Mr. Campbell as coal traffic manager at Baltimore, and **John H. Hague,** general freight agent at Washington, D. C., has been transferred to St. Louis, succeeding Mr. Groninger. Mr. Hague is succeeded at Washington by **A. M. Brinker,** assistant general freight agent at Washington, and **John J. Collins** has been appointed to succeed Mr. Brinker as assistant general freight agent at Washington.

ENGINEERING & SIGNALING

H. C. Charlton has been appointed crossing engineer of the Norfolk & Western, with headquarters at Roanoke, Va., replacing **H. F. Smith,** whose promotion to assistant engineer at Roanoke was announced in the *Railway Age* of January 2.

Herbert R. Clarke, chief engineer maintenance of way of the Chicago, Burlington & Quincy, the Colorado & Southern, the Ft. Worth & Denver City and the Wichita Valley (Burlington Lines), has been promoted to chief engineer of the Burlington Lines, with headquarters as before at Chicago, succeeding **Frank T. Darrow,** who retired on January 1. Mr. Clarke was born in Ireland on November 15, 1882. He came to America with his parents in 1888 and graduated from Monmouth College, Monmouth, Ill., in 1906. He entered railroad service in 1906 as a chainman on the Missouri Pacific, later being promoted to rodman. In 1907 he went with the Chicago, Burlington & Quincy as a rodman, later being advanced to instrumentman and to extra gang foreman. In July, 1909, he was appointed resident engineer on the construction of a line from Herrin, Ill., to Paducah, Ky., and in May, 1911, he was promoted to roadmaster on the Aurora division. Mr. Clarke was advanced to general roadmaster of the McCook division in November, 1919, and in October, 1921, he was promoted to district engineer of main-

Herbert R. Clarke

tenance for the Lines West of the Missouri river, with headquarters at Lincoln, Neb. In January, 1925, he was advanced to general inspector of permanent way and structures for the system, with headquarters at Chicago, and in 1927 his jurisdiction was extended to include the Colorado & Southern. In 1931 Mr. Clarke was promoted to engineer maintenance of way of the Burlington Lines (which include also the Ft. Worth & Denver City and the Wichita Valley), and in January, 1942, he was advanced to chief engineer maintenance of way. Mr. Clarke has been active for many years in the American Railway Engineering Association and is at present president of that association. He is also a past-president of the Roadmasters' and Maintenance of Way Association of America.

Mr. Darrow was born at Corning, Iowa, on September 2, 1875, and graduated in

Frank T. Darrow

civil engineering from Allegheny college, Meadville, Pa., in 1897. Before graduation, he worked for the Erie for three years at Corry, Pa. In 1897, he entered the service of the Burlington & Missouri River (now the C. B. & Q.), where he was engaged on location, construction, maintenance and bridge work until 1905, when he was appointed engineer maintenance of way of the Nebraska district. In 1907, Mr. Darrow was advanced to principal assistant engineer of the Lines West of the Missouri river, with headquarters at Lincoln, Neb. In 1909, after serving for a short time as assistant engineer maintenance of way at Lincoln, Mr. Darrow was advanced to engineer maintenance of way, with the same headquarters. In 1918, he was appointed assistant chief engineer of the Lines West of the Missouri river, which position he held until January, 1937, when he was promoted to chief engineer of the system at Chicago.

MECHANICAL

A. H. Ostberg, mechanical inspector, Lines East of the Missouri river, of the Chicago, Burlington & Quincy, has been promoted to general mechanical inspector, Lines East, with headquarters as before at Chicago.

J. D. Nimmo, general foreman of the Gulf, Colarado & Santa Fe at Cleburne, Tex., has been promoted to master mechanic of the Gulf division with headquarters at Silsbee, Tex., succeeding **C. F. Barnhill,** who retired on January 1.

J. D. Rezner, whose promotion to superintendent of the car department of the

J. D. Rezner

Chicago, Burlington & Quincy with headquarters at Chicago, was reported in the *Railway Age* of December 26, was born at Kirkwood, Ill., on July 13, 1893, and entered railway service on the Burlington in 1913 as an agent's helper at Kirkwood. In 1914 he became a car repairer at Alliance, Neb., and later served as a coach repairer and inspector at Omaha, Neb., night foreman of train yard inspectors at McCook, Neb., and day foreman of train yard inspectors at Alliance. In February, 1919, he was promoted to assistant car foreman at Alliance and seven months later he was advanced to assistant general car foreman at Lincoln, Neb. Mr. Rezner was appointed assistant general car inspector of the Lines West of the Missouri river, with headquarters at Lincoln, in June, 1922, and in 1927, he was promoted to general car inspector, Lines East, with headquarters at Chicago. In January, 1931, he was transferred to the Lines West, with headquarters

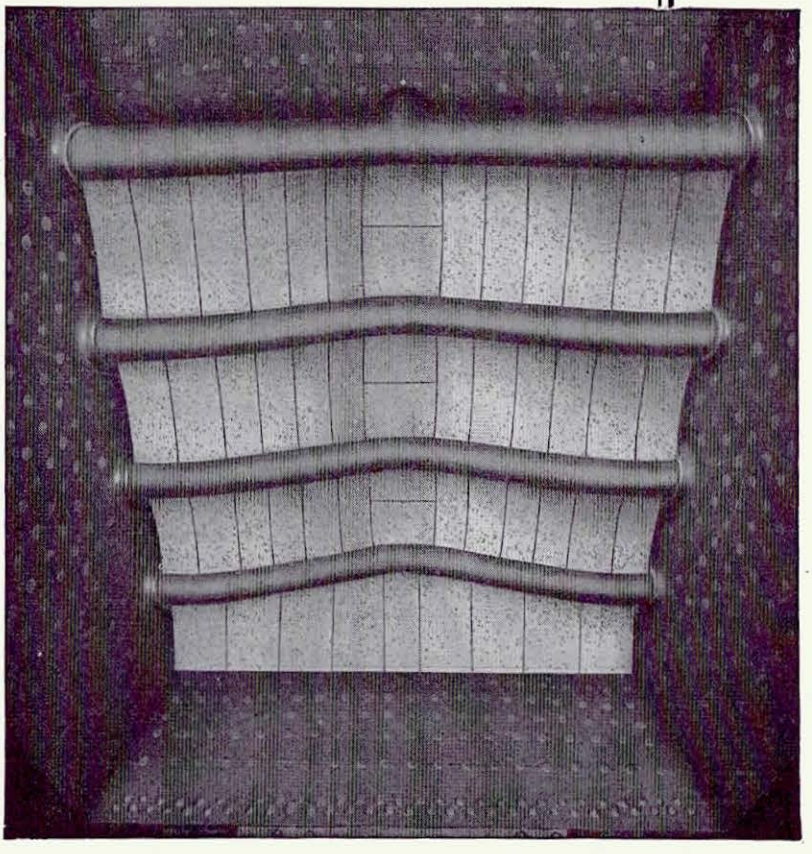
News Department continued on next left-hand page

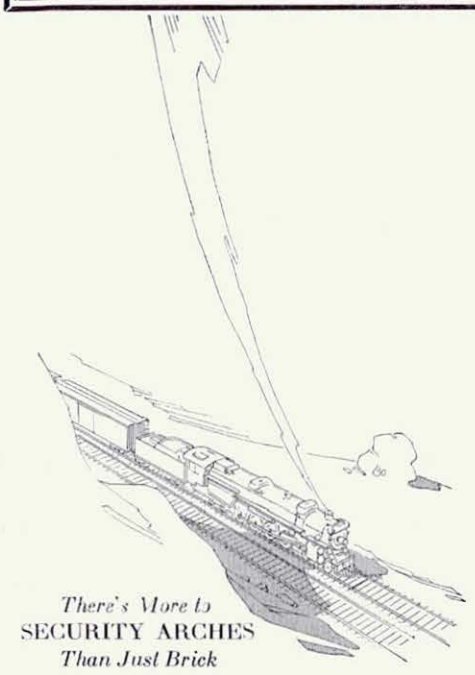
FUEL ECONOMY
is maximum ton-miles from every pound of fuel!

Security Brick Arches are correctly designed to compel every pound of fuel to develop its share of full boiler capacity.

Security Arch Brick are made from selected clays and carefully burned to assure maximum arch life in the locomotive firebox.

By every standard of value Security Arch Brick assures maximum economy.

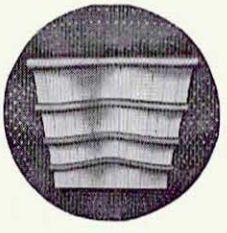




There's More to
SECURITY ARCHES
Than Just Brick

HARBISON-WALKER REFRACTORIES CO.

Refractory Specialists



AMERICAN ARCH CO.
INCORPORATED
60 EAST 42nd STREET, NEW YORK, N. Y.
Locomotive Combustion Specialists

at Lincoln, and in September, 1937, he was appointed superintendent of shops at Havelock, Neb. Mr. Rezner was appointed general car foreman at Chicago in October, 1938, which position he held until his recent promotion.

PURCHASES AND STORES

W. F. Brown, chief clerk of the general storekeeper's office of the Wabash, has been appointed acting general storekeeper during the absence of **C. L. Wakeman,** whose entry into the military service was reported in the *Railway Age* of December 26.

SPECIAL

Harold L. Wiand has been appointed publicity representative of the Eastern region of the Pennsylvania, with headquarters at Philadelphia, Pa.

James L. Hays, publicity director of the Union Pacific in the Pacific Northwest, with headquarters at Portland, Ore., has enlisted in the U. S. Navy as chief petty officer in a construction battalion of the Seabees.

F. A. Gibbs has been appointed chief special agent of the Minneapolis & St. Louis, with headquarters at Minneapolis, Minn., succeeding **E. E. Helin,** whose death on November 28 is reported elsewhere in these columns.

Harry G. Brandt, who has been on leave of absence from the Atchison, Topeka & Santa Fe as associate director, Western region, of rail and truck coordination for the Office of Defense Transportation, has returned to the Santa Fe as assistant general manager of the department of highway motor transport, with headquarters in Chicago.

Donald Ashton, whose appointment as publicity director of the Chicago, Burlington & Quincy, the Colorado & Southern, the Ft. Worth & Denver City and the Wichita Valley, with headquarters at Chicago, was reported in the *Railway Age* of December 26, was born at Denver, Colo., on October 8, 1897, and attended Salt Lake Collegiate Institute (Westminster College), Salt Lake City, Utah, and the Wharton School of Finance of the University of Pennsylvania. In August, 1917, he enlisted in the U. S. Army as a private, later being commissioned as second lieutenant in the Quartermasters corps. In 1919 he became advertising manager of the Cheyenne (Wyo.) State Leader and from 1920 to 1921 he served as secretary of the Laramie (Wyo.) Chamber of Commerce. Mr. Ashton then served for a while as commercial agent of the Salt Lake & Utah and in 1922 he went with the Sacramento (Cal.) Bee as city editor. In 1928 he became advertising agent of the Great Northern at Seattle, Wash., and in 1933 he returned to newspaper work as night city editor of the Milwaukee (Wis.) Sentinel. In 1935 he went with the Mobile (Ala.) Register as an editorial writer and the following year, he returned to railroad service as assistant advertising agent of the Chicago, Burlington & Quincy, with headquarters at Chicago, which position he held until his recent promotion, effective December 15.

OBITUARY

John Lummis, former auditor of freight receipts of the Canadian Pacific, who retired from that position in 1941, died on December 26 at Montreal, Que., at the age of 66.

Guy E. Bramon, who retired in 1935 as general auditor of the Wabash, with headquarters at St. Louis, Mo., died at the Wabash hospital in Decatur, Ill., on January 4.

Harry H. Knight, for 13 years general traffic manager of the Tennessee, Alabama & Georgia, with headquarters in Chattanooga, Tenn., and Birmingham, Ala., died January 1, in a Chattanooga hospital.

Otto Jabelmann, vice-president of research and mechanical standards of the Union Pacific at Omaha, Neb., died on January 6 at London, England. He was 51 years old.

Arthur Hamilton, former vice-president in charge of freight traffic of the Central of New Jersey, who retired from that position in 1935, died on January 2, at his winter home at St. Petersburg, Fla., at the age of 77.

Dr. James Thweatt Ross, senior surgeon of the Southern who was chief surgeon of the Georgia, Southern & Florida before it was absorbed by the Southern, died on December 23 at Macon, Ga., at the age of 81.

Frederick Edward Stoughton, special agent in the freight traffic department of the New York Central at Weehawken, N. J., died of a heart attack on December 30 at his home at Dumont, N. J., at the age of 69.

Lewis Stockett, who retired on January 1, 1929, as general superintendent of the Coal Mines branch of the department of natural resources of the Canadian Pacific, died recently at Vancouver, B. C. Mr. Stockett was born in Ashland, Pa. He was mining engineer of the Great Northern and general manager of the Great Northern Coal Mines from 1895 to 1905 and in the latter year went with the Canadian Pacific.

A. B. Warner, who retired in 1936 as superintendent of the Southern division of the Chicago, Rock Island & Pacific, with headquarters at Fort Worth, Tex., died at his home in El Reno, Okla., on November 20. Mr. Warner began his railroad career with the Rock Island in 1899 at Cedar Rapids, Iowa, later being transferred to Colorado Springs, Colo, where he remained until 1905, when he engaged in the construction of lines in Louisiana. For the next four years he was engineer in charge of construction of the Cimarron bridge at Liberal, Kan., and also of the El Reno terminals. In 1913 Mr. Warner went to Fort Worth as superintendent of the Southern division, later being advanced to vice-president and general superintendent of the Chicago, Rock Island & Gulf (Texas lines of the Rock Island). In 1923 he was appointed general manager of the Second district of the Rock Island, with headquarters at El Reno, and nine years later was granted leave of absence due to ill health. Mr. Warner returned to active service in 1933 as superintendent of the Southern division at Fort Worth, a position he held until his retirement in 1936.

William Neidlinger McGehee, general attorney of the Southern, whose death on December 17 at Columbus, Ohio, was noted in the *Railway Age* of January 2, was born on May 13, 1883, at Guyton, Ga., and attended Emory college at Oxford, Ga., and Mercer university at Macon, Ga. Before entering railroad service, Mr. McGehee practiced law in Georgia, and on January 1, 1919, was appointed examiner for the Interstate Commerce Commission, returning to his law practice at Atlanta, Ga., on October 15, 1919. He began his career with the Southern on September 1, 1920, as commerce counsel, and on September 1, 1940, he was promoted to general attorney, the position he was holding at the time of his death.

Roger W. Birdseye, general advertising manager of the Atchison, Topeka & Santa Fe, with headquarters at Chicago, died suddenly at his home in Evanston, Ill., on December 28. Mr. Birdseye was born in Brooklyn, N. Y., and attended the Horace Mann School and Amherst college. He received his early business training in New York City with Stephen T. Williams & Staff, a firm of efficiency engineers and pioneers in the use of highly personalized direct-by-mail solicitation. He then went with the American Real Estate Company and later, in 1912, was employed by the H. E. Lesan Advertising Agency, which connection continued until the outbreak of the World War. Mr. Birdseye enlisted in the Canadian expeditionary force in 1914, went to France, was wounded in the battle of the Somme, and was invalided home. He was awarded the British Distinguished Conduct medal. Returning to New York in 1918, he was employed by the Guaranty Trust Company as confidential secretary and assistant to the vice-president in charge of the advertising department. In 1921 severe illness, with complicating war disabilities, forced him to go to northern Arizona for his health. In 1923 he acted as contact man for the U. S. Geological Surveys expedition by boat through the Grand Canon, and accompanied pack trains down practically every passable trail to the Colorado River between Lee's Ferry and Peach Springs. These varied experiences inspired numerous Southwestern articles that were accepted by travel magazines, well-known newspapers, and the National Geographic Magazine. The Santa Fe first employed Mr. Birdseye as special representative of the advertising department at Santa Fe, N. M., in 1925. His work gradually broadened to include the preparation of all Santa Fe advertising material and in October, 1933, he was called to Chicago and appointed assistant to the general advertising manager. On December 1, 1936, Mr. Birdseye was promoted to general advertising manager.

Table of Operating Revenues and Expenses begins on next left-hand page

100,000 Superheaters *Can't Be Wrong*

For more than thirty years this company has been designing and manufacturing locomotive superheaters and also watching their performance on locomotives in this country—in fact the world over.

This accumulation of specialized experience is the reason for the progressive development of locomotive superheaters and the acceptance of Elesco superheater designs as the world's standard.

ELESCO

A-1550

SUPERHEATERS • FEEDWATER HEATERS
AMERICAN THROTTLES • STEAM DRYERS
EXHAUST STEAM INJECTORS • PYROMETERS

THE SUPERHEATER COMPANY

Representative of
AMERICAN THROTTLE COMPANY, INC.
60 East 42nd Street, NEW YORK
122 S. Michigan Blvd., CHICAGO
• • •
Montreal, Canada
THE SUPERHEATER COMPANY, LTD.

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF NOVEMBER AND ELEVEN MONTHS OF CALENDAR YEAR 1942

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income 1942	1941
Akron, Canton & Youngstown	Nov.	171	$302,799	$75	$318,588	$53,168	$28,237	$15,043	$91,215	$200,074	62.8	$118,514	$78,711	$66,521	$34,004
	11 mos.	171	3,015,323	913	3,151,907	584,756	323,189	167,241	898,504	2,103,606	66.7	1,048,301	730,552	576,198	621,320
Alton	Nov.	959	2,199,021	669,198	3,242,060	248,954	346,408	49,512	897,696	1,655,940	51.1	1,586,120	—1,196,356	—1,408,244	55,407
	11 mos.	959	20,662,526	4,972,505	28,565,825	2,869,601	3,759,284	550,007	9,586,027	17,855,500	62.5	10,710,325	4,571,665	2,461,584	1,733,579
Atchison, Topeka & Santa Fe System	Nov.	13,142	25,631,224	5,750,780	33,795,827	3,010,165	4,655,617	564,281	8,055,382	17,754,040	52.5	16,041,787	10,011,601	9,690,599	2,877,586
	11 mos.	13,310	258,241,450	46,334,802	325,204,388	32,903,657	49,155,154	5,425,258	87,625,989	180,020,327	55.4	145,184,061	76,813,918	74,213,034	36,323,095
Atlanta & West Point	Nov.	93	219,485	120,759	386,598	36,582	33,374	9,392	109,608	203,542	52.6	183,056	48,606	30,140	23,040
	11 mos.	93	2,278,882	941,952	3,576,880	340,463	383,324	102,280	1,114,177	2,095,036	58.6	1,481,844	778,323	577,080	222,170
Western of Alabama	Nov.	133	261,756	128,161	423,974	32,334	42,169	9,327	110,007	207,318	48.9	216,656	28,423	23,450	35,129
	11 mos.	133	2,626,246	969,972	3,932,615	343,760	470,910	99,489	1,144,189	2,201,219	56.0	1,731,396	846,750	784,595	297,426
Atlanta, Birmingham & Coast	Nov.	639	514,996	39,635	577,615	107,091	82,408	27,998	209,532	447,314	77.4	130,301	17,199	—19,851	—14,486
	11 mos.	639	4,788,566	382,409	5,442,494	710,361	741,879	291,898	2,083,420	4,026,502	74.0	1,415,992	745,218	389,807	221,936
Atlantic Coast Line	Nov.	4,993	8,226,000	2,929,730	11,810,931	749,879	1,332,602	160,697	2,879,604	5,419,091	45.9	6,391,840	2,391,840	2,125,946	670,891
	11 mos.	5,006	73,368,146	22,812,121	102,378,688	7,227,845	15,148,722	1,899,378	29,494,960	56,973,579	55.6	45,405,109	21,850,109	19,141,163	10,347,885
Charleston & Western Carolina	Nov.	343	306,693	18,228	231,558	29,356	46,491	10,082	98,044	189,807	57.2	141,751	66,751	69,738	45,417
	11 mos.	343	3,384,797	127,059	3,583,684	360,113	505,457	109,840	1,077,947	2,121,633	59.2	1,462,051	812,051	800,714	730,602
Baltimore & Ohio	Nov.	6,244	24,476,929	2,684,459	28,599,333	2,586,265	5,173,592	464,732	8,521,361	17,641,796	61.7	10,957,537	6,547,544	5,754,263	2,883,373
	11 mos.	6,255	242,739,945	23,945,337	280,080,991	25,480,312	57,250,120	5,033,454	88,846,660	185,816,181	66.3	94,264,810	61,462,747	54,589,200	44,385,115
Staten Island Rapid Transit	Nov.	24	159,671	86,362	255,097	12,642	21,730	1,149	89,644	141,604	55.5	113,493	80,680	73,780	—34,889
	11 mos.	24	1,366,633	946,620	2,418,996	191,291	278,601	12,992	990,737	1,637,878	67.7	781,118	473,875	363,181	—166,463
Bangor & Aroostook	Nov.	603	571,735	57,105	655,323	81,576	92,083	6,215	157,697	369,721	56.4	285,602	158,187	173,576	91,303
	11 mos.	603	5,195,704	544,391	6,035,276	1,075,457	1,044,043	66,374	1,621,880	4,109,359	68.1	1,925,917	1,029,208	1,262,034	1,192,153
Bessemer & Lake Erie	Nov.	214	1,859,973	1,124	1,876,428	164,886	476,289	13,826	313,844	1,003,735	53.5	872,693	37,222	137,247	613,931
	11 mos.	214	20,265,354	10,251	20,431,858	1,781,520	6,160,235	145,779	3,367,598	11,873,704	58.1	8,558,154	2,494,007	3,461,128	7,347,282
Boston & Maine	Nov.	1,842	4,793,656	1,249,410	6,641,999	800,441	939,301	74,934	2,196,391	4,208,785	63.4	2,433,214	1,734,240	1,455,029	468,188
	11 mos.	1,861	51,196,995	13,522,589	70,983,832	8,605,919	10,162,349	788,438	23,463,919	45,175,213	63.6	25,808,619	16,413,699	13,278,047	9,024,403
Burlington, Rock Island	Nov.	228	99,723	49,509	162,683	18,235	19,070	2,550	57,517	109,314	67.2	53,369	42,379	35,065	—11,993
	11 mos.	236	1,095,836	425,826	1,634,297	217,339	217,047	27,630	655,002	1,248,003	76.4	386,294	274,294	158,999	—35,448
Cambria & Indiana	Nov.	37	157,503	.....	157,575	14,075	61,143	419	16,253	97,572	61.92	60,003	—38,649	36,870	45,035
	11 mos.	37	1,921,803	.....	1,922,593	119,402	660,174	5,234	202,364	1,057,741	55.02	864,852	—123,612	692,909	796,408
Canadian Pacific Lines in Maine	Nov.	234	418,496	46,631	484,271	54,631	53,595	6,375	135,675	257,073	53.1	227,198	200,613	170,285	—23,158
	11 mos.	234	3,903,879	613,538	4,730,286	601,009	599,279	73,381	1,397,705	2,747,614	58.1	1,982,672	1,779,492	1,501,791	521,460
Canadian Pacific Lines in Vermont	Nov.	90	88,246	17,013	121,962	27,092	43,780	2,311	88,564	165,252	135.5	—43,290	—51,743	—76,592	—73,420
	11 mos.	90	1,029,223	140,950	1,314,088	296,509	292,854	26,453	891,615	1,546,320	117.7	—232,232	—322,003	—598,653	—438,333
Central of Georgia	Nov.	1,815	2,245,494	605,450	3,029,507	244,202	382,578	66,432	858,006	1,660,984	54.8	1,368,523	1,043,864	999,121	187,579
	11 mos.	1,815	20,443,961	4,233,583	26,584,344	2,621,692	3,996,225	675,906	8,811,095	17,209,339	64.7	9,375,005	7,204,155	6,922,546	3,867,512
Central of New Jersey	Nov.	660	4,000,426	561,090	4,841,871	401,720	982,224	44,823	1,794,607	3,333,453	68.9	1,508,418	1,161,780	913,966	210,657
	11 mos.	661	43,553,021	6,076,318	52,549,735	5,377,638	8,882,741	515,054	19,800,972	35,788,531	68.1	16,761,204	11,577,046	8,393,424	4,704,138
Central Vermont	Nov.	422	606,844	52,000	706,564	86,020	102,724	10,919	255,410	480,224	68.0	226,340	194,933	142,350	123,130
	11 mos.	422	6,361,835	692,000	7,513,575	965,787	1,078,201	121,601	2,925,871	5,338,972	71.1	2,174,603	1,823,316	1,304,781	1,326,658
Chesapeake & Ohio	Nov.	3,102	14,239,253	1,253,239	16,087,390	1,295,922	2,679,443	222,348	3,635,478	8,224,962	51.1	7,862,428	3,030,289	3,300,651	6,384,315
	11 mos.	3,117	150,920,866	9,862,972	166,641,327	14,917,289	27,822,704	2,428,111	37,923,324	87,201,725	52.3	79,439,602	30,807,005	33,689,339	45,272,707
Chicago & Eastern Illinois	Nov.	913	1,504,576	449,250	2,156,566	222,725	302,637	57,900	669,724	1,339,393	62.1	817,173	512,173	383,257	52,100
	11 mos.	921	15,968,060	3,594,975	21,523,867	2,170,363	3,343,773	654,820	7,170,056	14,414,432	67.0	7,109,435	4,829,435	3,337,811	1,748,481
Chicago & Illinois Midland	Nov.	131	459,942	1,047	482,840	42,564	67,313	20,028	115,097	267,738	55.5	215,102	86,789	88,744	106,157
	11 mos.	131	5,317,088	9,408	5,578,246	606,306	862,730	234,742	1,353,722	3,301,192	59.2	2,277,054	971,379	899,003	980,801
Chicago & North Western	Nov.	8,125	9,071,156	1,964,773	12,129,130	1,750,379	1,950,345	197,455	3,741,005	8,057,915	66.4	4,071,215	2,521,130	2,428,612	358,327
	11 mos.	8,224	96,872,817	18,079,336	125,957,757	16,813,084	21,596,890	2,159,446	41,271,416	86,179,480	68.4	39,778,277	25,025,139	23,168,698	16,055,076
Chicago, Burlington & Quincy	Nov.	9,042	12,840,892	2,199,967	16,464,263	1,799,105	2,146,121	239,824	4,213,900	8,865,754	53.8	7,598,509	4,392,628	4,126,178	1,145,673
	11 mos.	9,081	119,176,702	16,958,211	149,006,077	18,329,133	21,427,358	2,761,909	41,917,116	88,957,440	59.7	60,048,637	34,600,527	32,550,439	17,673,328
Chicago Great Western	Nov.	1,505	1,843,694	163,628	2,185,924	322,126	251,481	60,907	705,032	1,399,675	64.0	786,249	662,372	484,527	235,183
	11 mos.	1,505	20,148,641	1,413,925	23,080,872	2,732,702	2,980,811	673,568	7,821,573	14,894,902	64.5	8,185,970	5,123,757	3,102,965	2,726,007
Chicago, Indianapolis & Louisville	Nov.	549	876,826	93,802	1,041,653	119,603	156,982	29,625	308,825	650,660	62.5	390,993	349,653	291,846	244,106
	11 mos.	549	9,112,951	736,746	10,594,368	1,144,495	1,857,569	326,514	3,357,240	7,083,230	66.9	3,511,138	2,985,378	2,324,606	1,996,442

Table continued on second right-hand page

THEY'LL GIVE YOU A FRESH START IN LIFE

THIS is a Nazi court. Maybe none of us will ever face one...we hope.

They specialize in giving people fresh starts in life. All that you've ever had... your home, your bank account, the very clothes off your back, your family, even your self-respect...they take from you.

They start you off fresh, with nothing. They don't even leave you the opportunity you have now.

Millions of people have gotten fresh starts at their hands...millions of human beings who have worked and scrimped and saved all their lives for a little comfort, a mere modicum of happiness and security. Millions of men and women in Poland and Russia and France. Millions like *us*.

But this will never happen here...we hope. This is only something that happens to other people...we hope.

Yet how effective can mere "hope" be in *keeping* this from happening here?

Hope can't carry a rifle. Hope can't build a tank. Hope can't finance a war.

It takes action and human effort. Action from *all* of us. Human effort from *all* of us.

For this is a people's war. This is a war in which we, the people, win or lose ...in which we, the people, earn the right to live our own lives or to lose them. And you—and we who sign this advertisement—*are* the people.

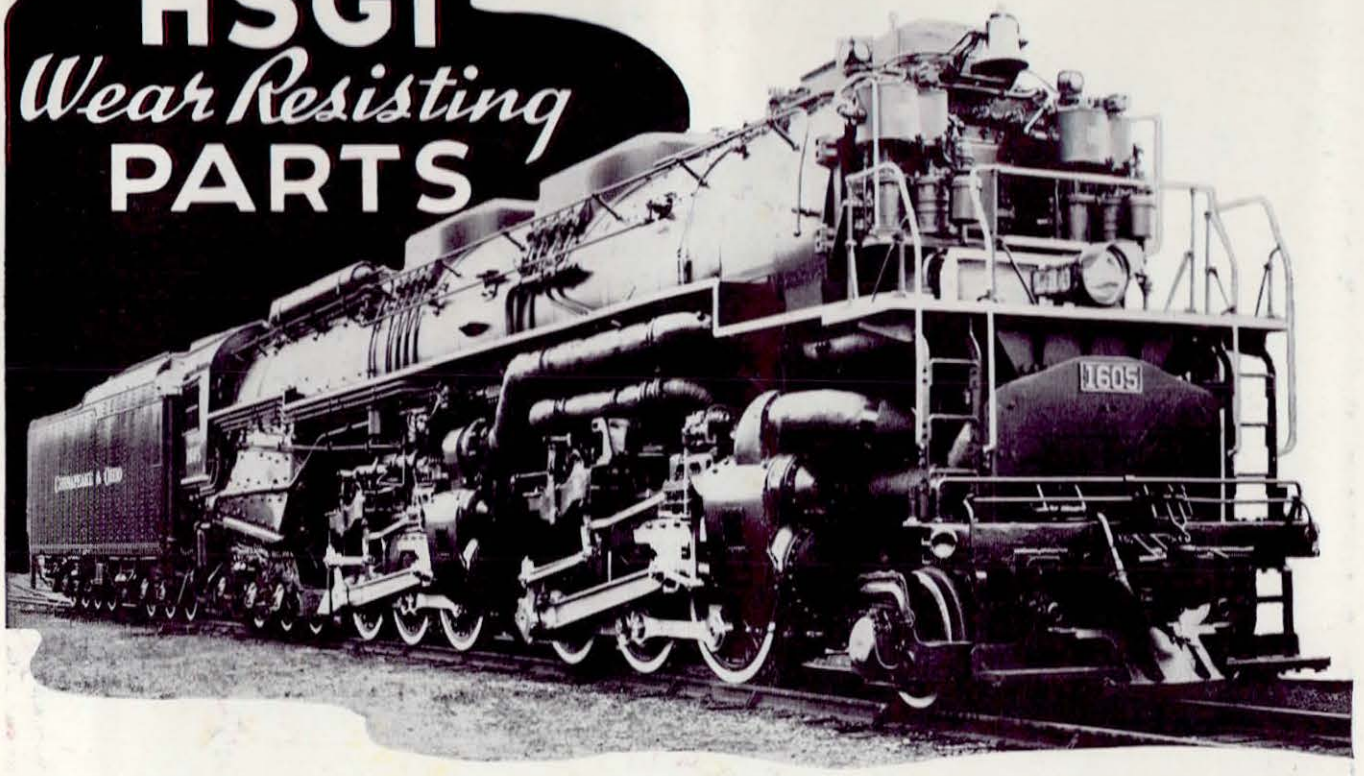
There is no time to wait to be *told* what to do. *Each* of us must *find out* what to do and *do* it. For with every minute, every precious minute, the decision grows closer. Win or lose. Have or have not. Live or die.

Not just for the other fellow. For *you*...

AMERICAN LOCOMOTIVE

30 CHURCH ST., NEW YORK, N. Y. • MANUFACTURERS OF TANKS • GUN CARRIAGES • ARMY AND NAVY ORDNANCE • STEAM AND DIESEL LOCOMOTIVES

HSGI *Wear Resisting* PARTS



INCREASE LOCOMOTIVE EARNINGS

THE service built into vital wearing parts is a very important factor in the net revenues produced by your power.

Especially those parts which influence locomotive efficiency, fuel consumption, availability and cost of maintenance.

Below is a list of vital parts for which most American railroads specify HUNT-SPILLER Air Furnace GUN IRON—because its wear-resisting properties insure greater earnings from every locomotive equipped. Materials which last longest are very vital to the nation's emergency program.

HSGI
Reg. U. S. Trade Mark

Cylinder Bushings
Cylinder Packing Rings
Pistons or Piston Bull Rings
Valve Bushings
Valve Packing Rings
Valve Bull Rings
Crosshead Shoes
Hub Liners
Shoes and Wedges
Floating Rod Bushings

Finished Parts

Dunbar Sectional Type Packing
Duplex Sectional Type Packing
for Cylinders and Valves
(Duplex Springs for Above
Sectional Packing)
Cylinder Snap Rings
Valve Rings, All Shapes
Light Weight Valves
Cylinder Liners and Pistons
for Diesel Service

HUNT-SPILLER MFG. CORPORATION

V. W. Ellet, *President* — E. J. Fuller, *Vice-Pres. & Gen. Mgr.*

383 Dorchester Ave. *Office & Works* South Boston, Mass.

Canadian Representative: Joseph Robb & Co., Ltd., 5575 Cote St. Paul Rd., Montreal, P. Q.
Export Agent for Latin America:
International Rwy. Supply Co., 30 Church Street, New York, N. Y.

HUNT-SPILLER GUN IRON

Air Furnace

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF NOVEMBER AND ELEVEN MONTHS OF CALENDAR YEAR 1942—CONTINUED

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income 1942	Net railway operating income 1941
Chicago, Milwaukee, St. Paul & Pacific	Nov.	10,820	$12,804,052	$2,050,167	$16,372,779	$1,909,260	$2,293,062	$224,396	$4,668,867	$9,635,526	58.9	$6,737,253	$3,896,253	$3,540,371	$1,563,234
	11 mos.	10,821	133,325,597	15,518,115	162,962,527	23,706,769	23,725,945	2,577,278	50,252,765	105,811,152	64.9	57,151,375	34,319,375	30,925,868	26,119,029
Chicago, Rock Island & Pacific	Nov.	7,848	9,062,828	2,958,265	13,052,629	1,080,595	1,806,802	298,575	3,671,568	7,335,834	56.2	5,716,795	4,109,146	3,743,431	585,011
	11 mos.	7,913	93,237,982	21,533,078	123,233,593	12,416,145	17,743,342	3,209,691	37,489,921	75,726,022	61.4	47,507,571	37,821,095	33,696,284	16,232,393
Chicago, St. Paul, Minneapolis & Omaha	Nov.	1,629	1,719,309	257,719	2,117,029	247,282	420,266	40,516	790,036	1,563,229	73.8	553,800	430,997	347,505	69,847
	11 mos.	1,629	17,644,643	2,364,115	21,423,122	2,697,317	3,470,391	452,328	8,720,017	16,105,704	75.2	5,317,418	3,923,410	2,963,333	1,457,359
Clinchfield Railroad	Nov.	308	1,048,651	8,848	1,066,064	55,934	123,588	21,895	200,062	417,616	39.2	648,448	488,252	505,009	317,018
	11 mos.	308	11,153,382	75,739	11,302,897	618,985	1,498,948	236,080	2,184,866	4,742,309	42.0	6,560,588	5,226,772	5,342,610	4,926,972
Colorado & Southern	Nov.	748	780,373	226,069	1,094,035	80,958	151,336	14,523	314,201	601,015	54.9	493,020	536,826	409,714	49,164
	11 mos.	755	7,199,551	1,660,693	9,623,910	951,130	1,550,130	164,206	3,136,690	6,198,567	64.4	3,425,343	2,759,481	2,480,414	1,037,476
Fort Worth & Denver City	Nov.	804	668,607	273,854	1,079,477	83,314	102,141	23,116	267,492	528,970	49.0	550,507	472,322	420,952	120,534
	11 mos.	804	6,322,630	2,329,340	9,878,996	820,792	1,168,182	242,701	2,633,212	5,355,777	54.2	4,523,219	3,786,827	3,331,352	935,166
Colorado & Wyoming	Nov.	42	104,636	.....	155,406	25,118	13,132	900	50,400	93,966	60.4	61,440	23,197	22,515	35,595
	11 mos.	42	1,080,919	.....	1,669,613	182,707	140,605	9,735	564,974	947,597	56.7	722,016	259,683	253,105	389,221
Columbus & Greenville	Nov.	168	168,666	8,605	189,928	31,907	28,144	6,635	76,855	158,627	83.5	31,301	12,524	6,746	17,468
	11 mos.	168	1,237,313	46,590	1,372,366	256,369	213,493	52,294	453,796	1,107,489	80.7	264,877	97,911	98,758	139,268
Delaware & Hudson	Nov.	849	3,508,977	78,500	3,687,468	407,936	779,379	43,748	1,185,609	2,523,027	68.4	1,164,441	1,258,035	1,237,483	474,951
	11 mos.	849	39,289,568	1,482,599	41,822,256	4,135,983	8,175,552	491,683	13,197,097	27,163,065	64.9	14,659,191	9,651,195	9,026,816	7,831,758
Delaware, Lackawanna & Western	Nov.	984	4,619,471	786,498	6,001,171	737,877	780,250	101,460	2,222,193	4,019,486	67.0	1,981,685	1,031,685	1,027,236	341,922
	11 mos.	984	51,628,181	8,331,092	66,171,674	6,500,840	9,974,348	1,187,922	24,820,780	44,289,577	66.9	21,882,097	10,787,897	10,409,347	9,287,383
Denver & Rio Grande Western	Nov.	2,405	4,694,574	802,617	5,729,687	288,459	767,892	88,657	1,520,337	2,843,030	49.6	2,886,657	2,028,811	1,879,490	272,216
	11 mos.	2,417	42,286,911	4,501,793	48,867,576	3,591,758	8,086,853	984,728	14,002,715	28,167,678	57.6	20,699,898	17,005,040	16,220,055	3,733,081
Denver & Salt Lake	Nov.	232	256,130	6,414	277,103	27,867	46,639	2,465	86,317	173,861	62.7	103,242	75,916	128,646	82,415
	11 mos.	232	2,408,227	64,131	2,588,042	326,020	499,987	28,501	819,242	1,785,005	69.0	803,037	507,175	1,070,372	798,709
Detroit & Mackinac	Nov.	242	96,024	5,373	115,965	17,531	14,846	718	29,285	65,804	56.8	50,161	41,825	35,828	21,742
	11 mos.	242	916,690	47,560	1,078,464	160,832	147,248	8,151	311,552	663,886	61.5	414,578	368,224	306,534	75,537
Detroit & Toledo Shore Line	Nov.	50	319,129	.....	320,201	29,801	24,034	8,999	81,620	152,709	47.7	167,492	74,706	25,744	41,446
	11 mos.	50	3,771,362	.....	3,783,411	347,877	280,677	100,068	979,620	1,796,283	47.5	1,987,128	1,258,902	694,475	793,030
Detroit, Toledo & Ironton	Nov.	464	617,962	653	659,021	74,037	109,773	13,738	157,112	375,470	57.0	283,551	206,355	221,501	182,868
	11 mos.	465	7,181,162	5,770	7,593,467	839,510	1,288,444	152,527	1,871,797	4,337,815	57.1	3,255,652	1,926,402	1,889,706	2,667,822
Duluth, Missabe & Iron Range	Nov.	546	3,530,183	3,376	4,054,175	218,464	316,987	4,338	1,039,679	1,616,369	39.9	2,437,806	1,062,554	1,067,249	1,684,351
	11 mos.	544	37,338,795	25,914	43,424,777	2,913,192	3,789,227	47,340	7,482,597	14,633,315	33.7	28,791,462	8,096,553	8,091,460	15,951,173
Duluth, Winnipeg & Pacific	Nov.	175	148,000	4,200	156,900	29,299	24,761	2,015	65,617	125,441	79.9	31,459	19,034	3,922	7,279
	11 mos.	175	1,840,700	16,800	1,899,200	366,165	275,037	22,193	713,353	1,415,202	74.5	483,998	336,236	127,133	23,945
Elgin, Joliet & Eastern	Nov.	392	2,416,075	5	2,781,222	180,046	1,351,612	15,812	908,285	2,509,560	90.2	271,662	—35,855	—98,959	—194,700
	11 mos.	392	27,278,623	185	30,943,399	2,179,613	6,714,456	180,501	10,177,894	19,803,755	64.0	11,139,644	3,848,613	2,645,061	5,330,650
Erie	Nov.	2,243	9,971,720	648,367	11,300,969	911,717	1,791,197	201,651	3,588,765	6,847,261	60.6	4,453,708	2,705,679	2,292,193	1,388,347
	11 mos.	2,248	108,137,362	6,741,196	122,207,099	11,475,247	19,848,161	2,144,191	40,191,606	77,298,150	63.3	44,908,949	27,170,164	22,671,544	20,062,251
Florida East Coast	Nov.	685	1,098,253	759,605	2,006,843	230,980	221,829	33,305	498,982	1,063,329	53.0	943,514	647,216	602,125	89,718
	11 mos.	685	10,554,832	6,204,871	18,174,143	1,886,236	2,159,901	366,658	5,001,904	10,318,897	56.8	7,855,246	6,593,678	6,166,466	1,294,894
Georgia Railroad	Nov.	329	643,322	147,171	843,281	64,460	77,276	21,013	255,786	436,220	51.7	407,061	382,580	367,086	185,026
	11 mos.	329	6,588,483	1,221,630	8,226,410	674,334	859,915	233,983	2,623,385	4,570,593	55.6	3,655,817	3,402,770	3,260,831	1,302,279
Georgia & Florida	Nov.	408	134,636	4,247	144,573	40,023	20,974	9,683	48,559	125,093	86.5	19,480	10,247	4,107	43,890
	11 mos.	408	1,529,240	44,887	1,630,543	400,425	221,715	108,458	536,170	1,337,111	82.0	293,432	193,308	111,030	152,578
Grand Trunk Western	Nov.	1,026	2,323,000	207,000	2,680,000	125,407	384,792	38,213	997,569	1,630,292	60.8	1,049,708	861,123	886,153	454,395
	11 mos.	1,026	24,590,000	1,626,000	27,906,000	3,265,020	4,809,586	423,900	10,589,691	19,994,464	71.7	7,911,536	6,058,935	5,408,831	5,796,434
Canadian National Lines in New England	Nov.	172	111,000	4,500	126,900	333,522	20,385	2,613	73,349	440,552	347.2	—313,652	—332,172	—371,586	—3,261
	11 mos.	172	1,702,200	62,200	1,919,400	867,249	269,011	28,291	964,426	2,253,855	112.2	—334,455	—538,175	—1,105,543	—459,834
Great Northern	Nov.	8,118	13,055,825	1,028,935	15,311,875	1,512,741	2,243,753	225,081	3,762,307	8,096,324	52.9	7,215,551	4,184,619	4,000,553	1,005,859
	11 mos.	8,092	131,457,550	7,817,626	150,785,692	17,393,305	23,927,886	2,287,875	37,862,008	85,145,195	56.5	65,640,497	37,429,301	35,830,366	26,716,921
Green Bay & Western	Nov.	234	190,011	390	196,064	69,841	22,506	6,154	54,527	162,131	82.6	33,933	9,758	4,802	—4,444
	11 mos.	234	2,028,811	4,038	2,094,722	462,944	249,851	91,328	612,091	1,480,696	70.6	614,026	368,704	284,094	252,753
Gulf & Ship Island	Nov.	259	175,912	54,604	250,847	41,278	27,090	2,799	98,422	177,702	70.8	73,145	57,167	38,589	—41,261
	11 mos.	259	1,782,254	309,527	2,271,596	346,157	276,536	32,950	840,774	1,577,347	69.4	694,249	503,327	331,946	5,831

Table continued on next left-hand page

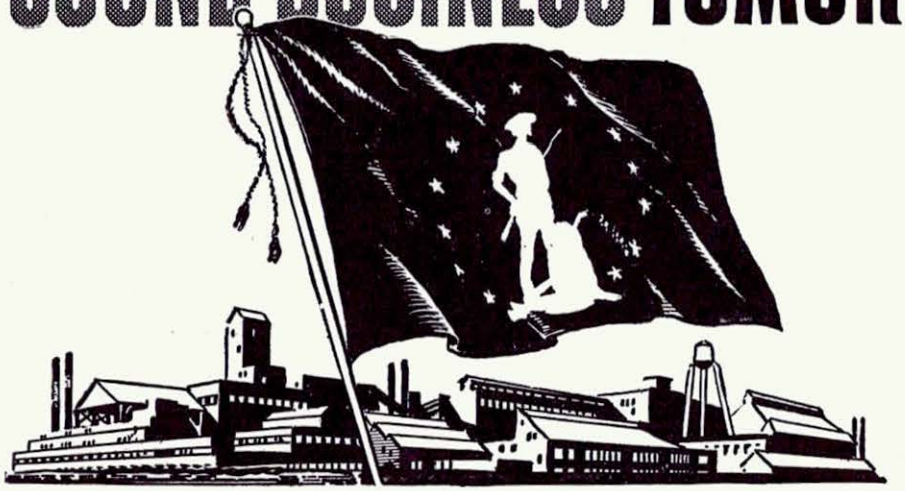
REVENUES AND EXPENSES OF RAILWAYS

MONTH OF NOVEMBER AND ELEVEN MONTHS OF CALENDAR YEAR 1942—CONTINUED

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income 1942	Net railway operating income 1941
Gulf, Mobile & Ohio	Nov.	1,969	$2,935,957	$160,219	$3,186,529	$473,524	$465,864	$83,061	$828,109	$1,945,245	61.0	$1,241,284	$765,584	$551,834	$309,061
	11 mos.	1,969	28,005,066	1,192,364	30,186,248	4,001,942	4,508,836	948,801	8,097,566	18,653,685	61.8	11,532,563	7,006,463	4,999,206	3,526,548
Illinois Central	Nov.	4,852	12,474,030	2,042,244	15,438,229	2,324,845	2,713,851	214,056	4,440,165	10,138,883	65.7	5,299,346	3,377,845	2,974,900	1,232,976
	11 mos.	4,912	133,976,123	17,558,779	160,710,830	20,299,711	31,754,860	2,389,306	46,929,013	106,442,059	66.2	54,268,771	27,749,334	23,647,432	18,789,854
Yazoo & Mississippi Valley	Nov.	1,525	2,820,575	306,968	3,284,856	434,507	350,308	35,610	883,731	1,786,987	54.4	1,497,869	1,176,749	1,026,281	599,486
	11 mos.	1,540	28,555,747	2,208,807	31,975,705	2,650,002	3,822,652	390,327	8,541,417	16,189,659	50.6	15,786,046	13,500,404	12,135,155	4,156,360
Illinois Central System	Nov.	6,377	15,294,605	2,349,212	18,723,085	2,759,352	3,064,159	249,666	5,323,896	11,925,870	63.7	6,797,215	4,554,156	4,001,094	1,851,675
	11 mos.	6,452	162,531,870	19,767,586	192,686,535	22,949,713	35,577,512	2,779,633	55,470,430	122,631,718	63.6	70,054,817	41,199,560	35,824,629	23,035,556
Illinois Terminal	Nov.	476	546,681	148,657	765,332	52,345	75,431	19,179	210,569	384,200	50.20	381,132	188,639	180,158	87,976
	11 mos.	476	6,082,934	1,298,849	8,151,497	650,200	899,114	207,400	2,421,816	4,472,247	54.86	3,679,250	1,895,232	1,650,569	1,445,378
Kansas City Southern	Nov.	880	2,695,993	299,957	3,228,596	1,202,488	463,121	60,079	723,346	2,541,669	78.7	686,927	16,927	—168,271	264,600
	11 mos.	880	26,806,517	2,211,996	30,999,632	5,643,405	3,843,442	630,999	7,394,547	18,439,697	59.5	12,559,935	7,188,935	4,975,448	3,794,001
Kansas, Oklahoma & Gulf	Nov.	328	332,939	1,124	336,879	24,562	20,431	9,386	82,598	146,939	43.6	189,940	115,993	94,118	57,848
	11 mos.	328	2,852,504	8,968	2,891,113	256,515	164,285	106,099	686,869	1,333,354	46.1	1,557,759	962,238	722,132	751,810
Lake Superior & Ishpeming	Nov.	156	244,946	114	309,681	26,922	37,219	556	62,888	135,295	43.7	174,386	120,859	129,098	166,976
	11 mos.	156	2,708,360	965	3,458,124	355,011	424,846	7,158	622,852	1,493,809	43.2	1,964,315	879,471	956,753	1,143,632
Lehigh & Hudson River	Nov.	96	253,492	1,957	256,655	43,169	32,040	4,368	69,198	155,225	60.5	101,430	66,078	40,875	46,028
	11 mos.	96	3,070,338	35,934	3,127,368	365,186	330,771	47,931	862,576	1,682,660	53.8	1,444,708	752,872	411,594	370,155
Lehigh & New England	Nov.	190	487,431	.....	490,443	34,483	109,653	8,674	150,273	320,945	65.4	169,498	87,926	101,108	82,286
	11 mos.	190	5,638,172	.....	5,671,919	449,759	1,146,302	79,856	1,602,796	3,469,365	61.2	2,202,554	1,167,054	1,317,055	1,307,803
Lehigh Valley	Nov.	1,260	6,691,145	416,999	7,563,475	637,554	1,148,269	113,796	2,388,518	4,465,122	59.0	3,098,353	1,999,362	1,561,340	522,513
	11 mos.	1,263	63,509,701	3,532,618	71,222,961	6,343,419	11,217,798	1,167,451	25,153,214	45,664,965	64.1	25,557,996	15,866,416	11,631,585	9,621,195
Louisiana & Arkansas	Nov.	877	1,428,436	87,658	1,570,046	833,524	136,116	31,786	310,259	1,363,849	86.9	206,197	332,845	256,738	255,094
	11 mos.	877	12,732,975	824,546	14,089,302	3,188,321	1,582,218	344,525	3,151,600	8,787,462	62.4	5,301,840	2,893,713	2,151,116	2,218,681
Louisville & Nashville	Nov.	4,745	12,287,983	2,387,957	15,510,183	1,003,582	2,357,826	195,847	4,347,238	8,384,190	54.1	7,125,993	2,985,604	3,242,026	2,062,735
	11 mos.	4,780	124,033,182	20,435,727	152,403,181	13,215,904	25,465,469	2,123,131	44,541,668	89,804,912	58.9	62,598,269	20,714,730	22,871,255	24,057,725
Maine Central	Nov.	991	1,092,983	207,709	1,400,071	162,358	228,421	13,786	443,007	893,331	63.8	506,739	313,231	301,076	833,089
	11 mos.	991	12,554,512	2,175,762	15,851,992	2,133,920	2,863,375	137,876	5,267,757	10,883,088	68.7	4,968,903	2,869,504	2,594,791	2,466,623
Midland Valley	Nov.	351	138,780	26	141,911	9,520	9,665	2,012	38,843	65,643	46.3	76,268	66,117	55,771	40,072
	11 mos.	351	1,347,409	101	1,373,674	187,462	105,923	26,006	410,864	795,807	57.9	577,867	454,054	345,771	413,541
Minneapolis & St. Louis	Nov.	1,409	1,134,521	28,603	1,204,971	188,575	153,539	60,051	336,762	782,527	64.9	422,444	358,130	317,937	68,394
	11 mos.	1,409	11,569,360	274,023	12,273,629	1,821,976	1,751,221	635,900	3,799,638	8,493,930	69.2	3,779,699	3,127,760	2,731,212	1,373,168
Minneapolis, St. Paul & Sault Ste. Marie	Nov.	4,277	2,914,811	159,738	3,307,149	492,184	565,102	68,693	1,221,086	2,440,959	73.8	866,190	632,189	586,442	358,167
	11 mos.	4,277	35,093,199	1,400,711	38,955,720	5,660,522	6,252,806	761,359	13,746,538	27,601,444	70.9	11,354,276	7,870,212	7,174,886	5,699,302
Duluth, South Shore & Atlantic	Nov.	550	236,640	15,894	279,104	51,383	46,113	7,964	125,402	237,926	85.2	41,178	23,418	20,259	90,120
	11 mos.	550	3,500,054	159,769	3,917,004	662,285	569,778	90,909	1,350,687	2,749,527	70.2	1,167,477	962,351	877,033	647,689
Spokane International	Nov.	152	185,212	2,467	194,425	22,477	6,674	3,330	37,510	76,693	39.5	117,732	64,051	54,940	11,925
	11 mos.	152	1,400,640	18,492	1,502,053	235,987	88,730	29,915	349,916	758,847	50.5	743,206	456,977	379,757	191,952
Mississippi Central	Nov.	158	149,104	6,325	157,416	26,110	17,331	8,655	32,122	89,589	56.9	67,827	41,814	33,144	10,386
	11 mos.	158	1,422,713	54,019	1,494,676	264,867	162,893	90,617	330,878	901,590	60.3	593,086	426,651	340,958	155,524
Missouri & Arkansas	Nov.	365	158,479	3,349	168,947	42,930	20,135	7,186	61,872	138,969	82.3	29,978	23,772	8,734	—12,728
	11 mos.	365	1,445,110	26,469	1,553,937	364,744	184,140	85,024	549,700	1,248,853	80.4	305,084	180,771	49,799	48,292
Missouri-Illinois	Nov.	172	310,779	287	313,085	31,649	27,436	3,098	76,359	144,912	46.3	168,173	—3,502	—18,556	40,548
	11 mos.	172	3,023,863	2,843	3,041,948	343,791	285,960	38,216	720,425	1,447,855	47.6	1,594,093	677,991	526,240	558,295
Missouri-Kansas-Texas Lines	Nov.	3,293	5,196,988	937,728	6,569,159	1,148,259	726,564	121,228	1,778,832	3,963,939	60.3	2,605,220	2,077,946	1,605,123	—374,614
	11 mos.	3,293	41,125,692	7,045,179	51,873,063	9,244,581	7,572,519	1,315,144	15,396,447	36,414,280	68.3	16,458,783	12,789,961	9,239,738	3,348,103
Missouri Pacific	Nov.	7,113	14,240,884	1,991,390	17,374,970	1,826,034	2,102,379	279,103	4,661,346	9,307,448	53.6	8,067,522	5,046,271	4,052,334	1,423,855
	11 mos.	7,131	134,193,550	16,328,307	161,174,905	16,812,074	21,476,676	2,994,219	45,924,269	91,468,564	56.8	69,706,341	53,943,438	45,351,236	20,997,853
Gulf Coast Lines	Nov.	1,767	2,526,362	259,767	2,908,465	367,332	281,810	43,329	708,119	1,473,899	50.7	1,434,566	780,359	546,946	485,980
	11 mos.	1,767	25,290,361	1,777,894	28,181,312	3,318,224	2,799,492	531,051	7,230,837	14,642,822	51.9	13,538,490	10,552,346	8,279,218	3,457,067
International Great Northern	Nov.	1,155	1,673,315	366,374	2,226,645	247,357	291,387	30,200	603,471	1,249,628	56.1	977,017	899,159	793,430	95,524
	11 mos.	1,155	15,371,314	2,501,431	19,560,576	2,519,501	2,846,629	346,942	6,263,824	12,752,774	65.2	6,807,802	5,983,749	4,974,220	1,215,765
Monongahela	Nov.	171	552,128	952	555,726	58,502	40,923	570	118,972	222,242	40.0	333,484	206,864	120,394	155,618
	11 mos.	172	6,392,343	9,095	6,426,818	686,713	491,202	6,091	1,420,485	2,638,967	41.1	3,787,851	2,388,027	1,358,530	1,824,105

Table continued on next left-hand page

FOR VICTORY TODAY
AND SOUND BUSINESS TOMORROW



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It means that billions of dollars are being diverted from "bidding" for the constantly shrinking stock of goods available, thus putting a brake on inflation. And it means that billions of dollars will be held in readiness for post-war readjustment.

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RAILWAY AGE

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF NOVEMBER AND ELEVEN MONTHS OF CALENDAR YEAR 1942—CONTINUED

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of: Way and structures	Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income: 1942	1941
Montour	Nov.	51	$227,537	$.....	$229,087	$19,346	$51,960	$873	$54,624	$134,241	58.6	$94,846	$29,064	$72,743	$70,580
	11 mos.	51	2,497,268	.....	2,513,066	181,500	576,951	9,119	615,912	1,466,041	58.3	1,047,025	351,120	768,347	790,779
Nashville, Chattanooga & St. Louis	Nov.	1,100	2,591,437	676,648	3,486,815	238,227	480,145	76,258	973,372	1,857,283	53.3	1,629,532	722,348	641,572	189,866
	11 mos.	1,109	21,555,768	4,062,820	27,627,336	2,706,354	4,664,380	809,116	8,872,633	17,908,035	64.8	9,719,301	5,551,795	5,116,164	2,963,672
Nevada Northern	Nov.	165	45,517	1,047	49,145	9,075	2,853	1,129	8,967	27,151	55.2	21,994	9,811	13,045	33,729
	11 mos.	165	598,401	10,083	642,014	111,018	37,166	13,192	105,276	330,051	51.4	311,963	127,936	152,841	181,781
New York Central	Nov.	10,891	37,439,813	10,099,358	52,543,403	7,048,673	8,905,059	635,097	16,788,053	35,094,266	66.8	17,449,137	10,178,540	8,735,515	3,772,532
	11 mos.	10,912	390,399,831	100,627,743	539,099,731	62,660,754	98,846,526	6,500,780	179,010,442	365,467,267	67.8	173,632,464	95,917,616	79,267,265	53,681,487
Pittsburgh & Lake Erie	Nov.	233	2,794,479	66,509	2,935,445	197,377	869,585	38,783	735,250	1,939,489	66.1	995,956	119,353	647,138	555,214
	11 mos.	233	29,750,103	796,887	31,365,970	2,622,944	8,920,432	438,078	8,616,245	21,658,018	69.1	9,707,952	945,362	6,074,317	6,636,558
New York, Chicago & St. Louis	Nov.	1,688	7,443,107	162,614	7,739,253	599,639	951,992	126,934	2,158,137	3,985,217	51.5	3,754,036	1,715,895	1,246,708	1,839,459
	11 mos.	1,688	77,179,369	1,819,355	80,356,368	6,474,886	9,693,068	1,431,736	23,149,169	42,373,807	52.7	37,982,561	18,782,800	13,016,136	15,426,351
New York, New Haven & Hartford	Nov.	1,839	7,320,140	5,462,962	13,851,280	1,361,934	1,711,407	154,150	4,131,532	7,939,917	57.3	5,911,363	3,567,563	2,680,115	1,052,267
	11 mos.	1,841	81,334,622	49,705,817	141,759,361	14,357,436	18,796,546	1,479,463	43,589,940	84,376,710	59.5	57,382,651	37,251,051	27,124,820	14,760,646
New York Connecting	Nov.	21	214,251	.....	235,354	80,591	9,411	.....	40,482	132,020	56.1	103,334	—6,666	107,997	82,904
	11 mos.	21	2,482,363	.....	2,664,292	746,821	108,752	.....	446,186	1,318,999	49.5	1,345,293	669,353	1,622,017	2,723,922
New York, Ontario & Western	Nov.	547	510,104	4,946	561,476	72,225	113,945	19,791	263,161	492,812	87.8	68,664	49,788	46,039	—91,076
	11 mos	547	5,900,330	482,067	6,881,485	804,023	1,321,009	218,619	3,293,654	5,868,276	85.3	1,013,209	679,863	222,176	—216,373
New York, Susquehanna & Western	Nov.	262	327,624	34,178	375,260	33,921	29,846	3,696	132,238	214,575	57.2	160,685	94,913	48,374	5,377
	11 mos.	262	3,395,893	389,626	3,998,973	315,281	343,446	34,388	1,402,973	2,254,025	56.4	1,744,948	1,299,718	826,311	633,731
Norfolk & Western	Nov.	2,159	10,522,622	1,333,087	12,228,978	1,192,869	2,286,065	165,577	2,477,630	6,411,354	52.4	5,817,624	1,718,381	2,355,747	1,738,212
	11 mos.	2,168	115,403,704	8,663,815	127,595,143	12,916,991	25,889,096	1,728,884	26,506,867	69,946,902	54.8	57,648,241	15,507,453	21,314,315	27,035,704
Norfolk Southern	Nov.	733	681,413	22,709	726,377	114,982	73,112	29,313	214,105	455,742	62.7	270,635	146,776	111,882	34,352
	11 mos.	733	6,843,130	215,777	7,300,991	1,155,577	767,572	311,542	2,225,467	4,739,883	64.9	2,561,108	1,534,237	1,190,691	705,327
Northern Pacific	Nov.	6,882	9,774,377	1,064,987	11,749,419	1,397,549	1,831,195	158,444	3,144,482	6,966,053	59.3	4,783,366	2,678,492	3,036,819	1,328,764
	11 mos.	6,888	91,442,444	7,832,115	107,400,405	13,840,442	19,378,244	1,920,659	30,745,049	70,021,232	65.2	37,379,173	20,934,787	24,954,440	18,617,205
Northwestern Pacific	Nov.	335	457,528	15,609	501,516	99,579	42,403	1,551	143,930	294,367	58.7	207,149	185,844	167,656	—64,518
	11 mos.	341	4,353,309	126,128	4,686,413	1,090,202	552,688	26,914	1,588,810	3,338,290	71.2	1,348,123	1,107,039	903,851	—107,157
Oklahoma City-Ada-Atoka	Nov.	132	141,360	4	143,056	21,794	4,973	1,068	41,044	72,900	51.0	70,156	44,461	27,887	—10,799
	11 mos.	132	1,190,639	8	1,206,317	149,341	44,631	11,758	297,446	541,480	44.9	664,837	443,157	288,025	15,579
Pennsylvania	Nov.	10,211	51,792,609	16,705,863	74,243,320	7,139,056	12,346,972	896,497	25,890,273	48,621,972	65.5	25,621,348	15,869,227	14,789,129	6,497,791
	11 mos.	10,214	560,363,885	150,605,727	765,749,181	80,847,819	135,382,213	9,157,487	257,509,761	504,363,933	65.9	261,385,248	143,651,710	130,359,686	88,289,118
Long Island	Nov.	378	994,082	1,792,137	2,934,092	842,732	413,244	92,312	1,330,384	2,729,144	93.0	204,948	—91,486	—305,917	—72,653
	11 mos.	378	10,594,562	19,960,802	32,016,242	5,056,806	4,721,939	278,823	13,172,476	23,811,242	74.4	8,205,000	3,766,741	1,682,283	775,846
Pennsylvania-Reading Seashore Lines	Nov.	403	484,125	202,962	716,704	123,680	89,217	8,789	356,691	600,419	83.8	116,285	48,742	—36,476	—167,386
	11 mos.	406	4,859,872	3,488,463	8,688,512	1,148,213	1,059,552	98,678	4,176,862	6,689,650	77.0	1,998,862	1,016,708	—167,776	—827,887
Pere Marquette	Nov.	2,050	3,451,856	239,565	3,870,316	586,586	763,066	65,203	1,316,298	2,841,155	73.4	1,029,161	610,717	553,094	495,110
	11 mos.	2,054	35,998,187	1,892,416	39,797,467	5,339,349	8,030,422	756,156	13,916,177	29,310,232	73.6	10,487,235	6,152,894	5,576,621	5,743,907
Pittsburg & Shawmut	Nov.	97	92,100	.....	92,711	22,825	17,821	2,180	25,003	72,646	78.4	20,065	17,901	16,715	34,751
	11 mos.	97	1,130,106	.....	1,136,566	201,599	203,268	23,144	290,059	774,488	68.1	362,078	327,136	297,412	220,265
Pittsburgh & West Virginia	Nov.	136	495,310	.....	513,594	61,679	104,494	18,769	120,014	327,589	63.8	186,005	146,469	154,963	189,727
	11 mos.	136	5,682,992	407	5,886,382	906,633	1,126,488	213,380	1,320,625	3,835,729	65.2	2,050,653	1,556,550	1,617,227	1,481,695
Pittsburg, Shawmut & Northern	Nov.	190	114,401	.....	115,523	17,153	26,587	1,017	39,512	90,395	78.2	25,128	18,730	12,435	17,939
	11 mos.	190	1,338,235	.....	1,353,629	237,874	318,739	12,419	471,691	1,102,774	81.5	250,855	175,912	93,027	271,792
Reading	Nov.	1,420	7,763,207	675,284	8,875,079	649,077	1,711,653	77,235	2,695,716	5,307,475	59.8	3,567,604	2,308,119	2,178,412	1,012,875
	11 mos.	1,426	82,826,940	6,557,479	93,609,290	7,591,763	17,817,410	814,903	30,172,828	58,283,991	62.3	35,325,299	21,511,090	19,656,598	14,915,347
Richmond, Fredericksburg & Potomac	Nov.	118	1,508,800	1,007,679	2,709,993	150,643	225,360	12,294	611,778	1,078,587	39.8	1,631,406	403,249	259,557	113,181
	11 mos.	118	13,684,537	9,493,102	25,129,245	1,433,655	2,191,769	120,588	6,081,183	10,641,595	42.3	14,487,650	4,187,546	2,816,531	2,234,509
Rutland	Nov.	407	231,608	66,079	367,318	40,382	65,060	9,994	162,015	288,414	78.5	78,904	58,616	64,542	854
	11 mos.	407	2,747,460	509,275	3,945,786	449,581	725,497	116,778	1,773,762	3,194,528	81.0	751,258	526,193	561,324	232,785
St. Louis-San Francisco	Nov.	4,674	6,196,595	1,665,575	8,453,935	695,144	1,455,951	141,840	2,498,684	5,073,788	60.0	3,380,147	2,941,711	2,851,556	1,132,505
	11 mos.	4,724	60,295,892	11,490,593	77,127,080	7,423,555	13,627,604	1,491,432	24,481,915	49,751,090	64.5	27,375,990	22,755,051	22,719,093	11,558,059
St. Louis, San Francisco & Texas	Nov.	159	303,856	12,982	323,115	24,200	25,469	9,154	91,400	156,380	48.4	66,735	156,287	131,231	27,287
	11 mos.	159	2,886,838	108,266	3,063,951	298,260	252,264	100,808	877,146	1,594,182	52.0	1,469,769	1,333,358	1,044,414	154,588

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF NOVEMBER AND ELEVEN MONTHS OF CALENDAR YEAR 1942—CONTINUED

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of: Way and structures	Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income: 1942	1941
St. Louis Southwestern Lines	Nov.	1,617	$3,918,841	$299,590	$4,335,351	$333,888	$429,678	$94,579	$1,108,134	$2,072,307	47.8	$2,263,044	$692,459	$354,749	$268,899
	11 mos.	1,617	40,149,047	1,951,357	43,185,442	3,792,368	4,369,668	1,059,259	10,952,078	21,280,463	49.3	21,904,979	11,150,705	7,945,011	6,094,453
Seaboard Air Line	Nov.	4,227	7,349,964	2,817,070	10,784,596	1,137,389	2,297,956	201,930	2,870,540	6,900,220	64.0	3,884,376	3,384,376	2,955,484	610,679
	11 mos.	4,263	68,602,010	24,167,228	98,642,466	9,703,518	14,876,661	2,231,372	28,818,425	59,396,832	60.2	39,245,634	30,945,634	27,316,352	8,918,414
Southern Railway	Nov.	6,519	14,421,136	4,019,813	19,600,736	1,792,820	2,758,823	198,403	4,808,538	10,112,982	51.6	9,487,754	6,041,179	5,761,143	2,835,732
	11 mos.	6,519	142,815,570	31,924,389	185,191,022	18,531,210	28,304,100	2,104,535	49,714,360	104,170,254	56.3	81,020,768	41,333,951	38,575,518	29,534,992
Alabama Great Southern	Nov.	315	1,529,005	333,604	1,952,611	56,524	262,411	22,964	478,223	866,509	44.4	1,086,102	438,022	333,040	251,424
	11 mos.	315	14,428,217	2,671,600	17,927,843	1,218,821	2,502,821	239,334	4,593,102	8,997,999	50.2	8,929,844	2,640,390	1,927,499	2,167,474
Cincinnati, New Orleans & Texas Pacific	Nov.	337	2,411,461	503,534	3,046,166	36,830	485,299	35,889	638,700	1,276,764	41.9	1,769,402	709,132	664,490	546,649
	11 mos.	337	22,959,988	3,564,923	27,692,938	2,459,933	5,103,033	351,123	6,359,310	15,048,949	54.3	12,643,989	4,742,302	4,519,351	5,551,119
Georgia Southern & Florida	Nov.	398	325,974	164,248	538,588	81,950	101,184	2,430	194,108	394,042	73.2	144,546	69,352	43,527	26,035
	11 mos.	398	3,056,896	1,266,427	4,666,844	642,891	574,176	27,739	1,434,277	2,810,050	60.2	1,856,794	1,146,535	856,170	470,789
New Orleans & Northeastern	Nov.	204	976,876	202,190	1,229,604	75,317	107,373	12,073	254,132	478,282	38.9	751,322	56,157	—47,056	140,958
	11 mos.	204	8,715,742	1,567,277	10,743,061	771,372	838,703	126,464	2,530,452	4,549,333	42.3	6,193,728	2,188,847	1,255,029	1,272,798
Southern Pacific	Nov.	8,365	25,158,472	7,238,199	35,298,496	2,634,516	5,029,237	441,096	10,679,181	20,500,995	58.1	14,797,501	9,112,100	7,656,168	1,336,361
	11 mos.	8,485	255,575,971	51,159,046	331,362,497	26,507,109	51,643,831	4,629,522	100,778,338	199,341,485	60.2	132,021,012	80,838,576	67,236,518	42,884,088
Southern Pacific Steamship Lines	Nov.	....	61	.....	64	.....	.....	132	Cr. 28,074	Cr. 27,216	...	27,280	27,210	27,210	—62,288
	11 mos.	....	582	132	3,706	79,136	12	268	Cr. 2,023	102,609	In Excess of 999	—98,903	—101,518	—101,518	30,953
Texas & New Orleans	Nov.	4,341	8,172,300	1,775,776	10,544,574	930,870	1,019,445	145,860	2,400,396	4,817,405	45.7	5,727,169	4,028,186	3,507,839	970,703
	11 mos.	4,391	74,070,655	12,129,383	91,184,693	9,739,130	10,184,943	1,528,590	22,810,214	47,312,898	51.9	43,871,795	26,843,665	22,206,973	11,793,261
Spokane, Portland & Seattle	Nov.	930	1,793,498	127,162	2,073,945	194,089	118,373	12,464	505,391	879,228	42.4	1,194,717	1,080,757	894,041	175,581
	11 mos.	933	16,204,402	750,920	17,979,566	1,832,185	1,364,204	130,070	5,053,147	8,852,161	49.2	9,127,405	8,059,469	6,503,665	2,802,077
Tennessee Central	Nov.	286	308,275	29,754	358,487	65,930	52,046	6,506	110,089	249,129	69.5	109,358	57,688	44,969	—3,207
	11 mos.	286	3,301,108	162,939	3,663,649	778,573	538,942	72,785	1,180,708	2,714,973	74.1	948,676	620,942	456,885	377,262
Texas & Pacific	Nov.	1,903	3,559,362	1,504,735	5,559,295	613,221	620,619	88,900	1,253,411	2,791,932	50.2	2,767,363	1,665,165	1,560,972	679,685
	11 mos.	1,896	32,766,542	9,649,730	46,253,099	4,740,818	6,937,846	942,467	12,045,590	26,646,831	57.6	19,606,268	12,028,610	10,902,722	6,171,399
Texas Mexican	Nov.	162	117,437	2,095	139,856	20,529	11,658	3,982	37,784	82,482	59.0	57,374	46,983	40,073	38,622
	11 mos.	162	1,329,837	6,119	1,567,099	243,327	151,387	42,272	441,167	968,062	61.8	599,037	517,557	437,337	314,748
Toledo, Peoria & Western	Nov.	239	347,020	29	350,875	44,634	18,268	21,856	66,524	162,792	46.4	188,083	177,012	158,458	41,586
	11 mos.	239	2,835,585	94	2,874,002	431,205	193,371	214,349	703,601	1,681,949	58.5	1,192,053	1,042,510	869,307	384,286
Union Pacific System	Nov.	9,837	27,846,599	5,456,327	35,901,260	3,843,726	5,365,724	428,369	9,503,314	20,576,819	57.3	15,324,441	9,523,767	8,351,788	4,768,706
	11 mos.	9,857	250,423,835	40,104,297	312,335,984	41,798,945	53,161,476	4,665,298	84,396,966	196,845,852	63.0	115,490,132	60,420,473	50,397,869	24,548,240
Utah	Nov.	111	115,450	.....	115,456	14,682	34,957	377	31,070	85,487	74.0	29,969	9,089	10,043	2,641
	11 mos.	111	1,225,989	.....	1,226,703	177,601	385,120	5,285	314,461	929,818	75.8	296,885	156,343	155,571	58,146
Virginian	Nov.	659	2,001,714	7,003	2,103,598	169,483	461,811	23,423	398,111	1,096,639	52.1	1,006,959	496,959	585,916	804,649
	11 mos.	657	23,463,708	66,915	24,427,454	2,048,572	5,128,149	276,042	4,283,474	12,241,381	50.1	12,186,073	6,128,573	6,799,810	7,799,946
Wabash	Nov.	2,393	6,442,903	688,857	7,533,091	727,124	841,555	155,291	2,183,647	4,128,777	54.8	3,404,314	1,965,323	1,410,346	887,726
	11 mos.	2,395	62,462,851	5,358,023	71,631,364	7,449,743	8,775,566	1,761,485	22,688,357	42,914,035	59.9	28,717,329	14,075,017	8,799,971	9,052,292
Ann Arbor	Nov.	294	420,104	5,300	440,145	45,554	75,321	15,211	170,007	318,862	72.4	121,283	67,023	62,037	45,627
	11 mos.	294	4,508,760	45,653	4,695,510	461,291	873,299	166,204	1,897,214	3,544,183	75.5	1,151,327	604,012	469,686	604,245
Western Maryland	Nov.	850	2,425,883	21,134	2,518,284	266,245	549,832	42,004	661,042	1,586,943	63.0	931,341	645,341	701,134	370,912
	11 mos.	857	26,867,064	197,061	27,919,786	3,026,309	5,955,988	487,823	7,274,066	17,497,444	62.7	10,422,342	6,328,342	6,514,511	5,415,632
Western Pacific	Nov.	1,195	3,564,271	200,073	3,885,781	219,722	461,107	71,664	1,036,165	1,889,207	48.6	1,996,574	944,183	767,964	426,309
	11 mos.	1,195	31,623,114	2,006,164	34,574,577	3,061,793	4,317,028	829,334	10,507,356	19,639,127	56.8	14,935,450	11,316,682	9,675,363	4,242,210
Wheeling & Lake Erie	Nov.	507	1,934,086	.....	2,006,219	182,277	332,327	49,865	533,312	1,152,633	57.5	853,586	103,654	270,811	281,443
	11 mos.	507	21,075,919	25	22,166,719	2,645,759	3,671,547	449,305	6,197,839	13,427,900	60.6	8,738,819	1,501,358	3,129,378	3,700,922

Index to Advertisers

January 9, 1943

A

Alaska Junk Co. 28
American Arch Company, Inc. 23
American Brake Shoe and Foundry Co., The 12, 13
American Locomotive Company 7, 25
American Steel Foundries 9

B

Baldwin Locomotive Works, Inc. 4, 5

C

Carlton-Coast Railroad Liquidators 28
Caterpillar Tractor Co. 15
Classified Advertisements 28

D

Dulien Steel Products, Inc. 28
Duryea Corp., O. C. 2

E

Electro-Motive Division, General Motors Corporation .. Front Cover

F

Franklin Railway Supply Company, Inc. 22

G

General Electric Company 7
General Machinery Corp. 6
General Machinery Ordnance Corp. 6
General Railway Signal Co. ..... Back Cover
Get Together Department 28

H

Harbison-Walker Refractories Co. 25
Hooven, Owens, Rentschler Co., The 6
Hunt-Spiller Mfg. Corporation 26

I

Iron & Steel Products, Inc. 28

J

Justrite Manufacturing Co. 29

K

Kerite Insulated Wire & Cable Co., Inc., The 29

L

Lima Locomotive Works, Inc. 21

N

National Malleable and Steel Castings Company 3
Niles Tool Works Co., The 6

O

Ohio Locomotive Crane Co., The 29
Okonite Company 20

P

Pennsylvania Railroad 11

R

Railway Education Bureau, The 28

S

Schaefer Equipment Company 31
Simmons-Boardman Publishing Corp. 8, 10, 28
Sonken-Galamba Corp. 28
Superheater Co., The 24

U

Union Switch & Signal Company 18
U. S. Metallic Packing Co., The 29

V

Vapor Car Heating Co., Inc. 29

W

Westinghouse Air Brake Co. 16

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF NOVEMBER AND ELEVEN MONTHS OF CALENDAR YEAR 1942—CONTINUED

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income 1942	Net railway operating income 1941
St. Louis Southwestern Lines	Nov.	1,617	$3,918,841	$299,590	$4,335,351	$333,888	$429,678	$94,579	$1,108,134	$2,072,307	47.8	$2,263,044	$692,459	$354,749	$268,899
	11 mos.	1,617	40,149,047	1,951,357	43,185,442	3,792,368	4,369,668	1,059,259	10,952,078	21,280,463	49.3	21,904,979	11,150,705	7,945,011	6,094,453
Seaboard Air Line	Nov.	4,227	7,349,964	2,817,070	10,784,596	1,137,389	2,297,956	201,930	2,870,540	6,900,220	64.0	3,884,376	3,384,376	2,955,484	610,679
	11 mos.	4,263	68,602,010	24,167,228	98,642,466	9,703,518	14,876,661	2,231,372	28,818,425	59,396,832	60.2	39,245,634	30,945,634	27,316,352	8,918,414
Southern Railway	Nov.	6,519	14,421,136	4,019,813	19,600,736	1,792,820	2,758,823	198,403	4,808,538	10,112,982	51.6	9,487,754	6,041,179	5,761,143	2,835,732
	11 mos.	6,519	142,815,570	31,924,389	185,191,022	18,531,210	28,304,100	2,104,535	49,714,360	104,170,254	56.3	81,020,768	41,333,951	38,575,518	29,534,992
Alabama Great Southern	Nov.	315	1,529,005	333,604	1,952,611	56,524	262,411	22,964	478,223	866,509	44.4	1,086,102	438,022	333,040	251,424
	11 mos.	315	14,428,217	2,671,600	17,927,843	1,218,821	2,502,821	239,334	4,593,102	8,997,999	50.2	8,929,844	2,640,390	1,927,499	2,167,474
Cincinnati, New Orleans & Texas Pacific	Nov.	337	2,411,461	503,534	3,046,166	36,830	485,299	35,889	638,700	1,276,764	41.9	1,769,402	709,132	664,490	546,649
	11 mos.	337	22,959,988	3,564,923	27,692,938	2,459,933	5,103,033	351,123	6,359,310	15,048,949	54.3	12,643,989	4,742,302	4,519,351	5,551,119
Georgia Southern & Florida	Nov.	398	325,974	164,248	538,588	81,950	101,184	2,430	194,108	394,042	73.2	144,546	69,352	43,527	26,035
	11 mos.	398	3,056,896	1,266,427	4,666,844	642,891	574,176	27,739	1,434,277	2,810,050	60.2	1,856,794	1,146,535	856,170	470,789
New Orleans & Northeastern	Nov.	204	976,876	202,190	1,229,604	75,317	107,373	12,073	254,132	478,282	38.9	751,322	56,157	—47,056	140,958
	11 mos.	204	8,715,742	1,567,277	10,743,061	771,372	838,703	126,464	2,530,452	4,549,333	42.3	6,193,728	2,188,847	1,255,029	1,272,798
Southern Pacific	Nov.	8,365	25,158,472	7,238,199	35,298,496	2,634,516	5,029,237	441,096	10,679,181	20,500,995	58.1	14,797,501	9,112,100	7,656,168	1,336,361
	11 mos.	8,485	255,575,971	51,159,046	331,362,497	26,507,109	51,643,831	4,629,522	100,778,338	199,341,485	60.2	132,021,012	80,838,576	67,236,518	42,884,088
Southern Pacific Steamship Lines	Nov.	....	61	.....	64	.....	.....	132	Cr. 28,074	Cr. 27,216	...	27,280	27,210	27,210	—62,288
	11 mos.	....	582	132	3,706	79,136	12	268	Cr. 2,023	102,609	In Excess of 999	—98,903	—101,518	—101,518	30,953
Texas & New Orleans	Nov.	4,341	8,172,300	1,775,776	10,544,574	930,870	1,019,445	145,860	2,400,396	4,817,405	45.7	5,727,169	4,028,186	3,507,839	970,703
	11 mos.	4,391	74,070,655	12,129,383	91,184,693	9,739,130	10,184,943	1,528,590	22,810,214	47,312,898	51.9	43,871,795	26,843,665	22,206,973	11,793,261
Spokane, Portland & Seattle	Nov.	930	1,793,498	127,162	2,073,945	194,089	118,373	12,464	505,391	879,228	42.4	1,194,717	1,080,757	894,041	175,581
	11 mos.	933	16,204,402	750,920	17,979,566	1,832,185	1,364,204	130,070	5,053,147	8,852,161	49.2	9,127,405	8,059,469	6,503,665	2,802,077
Tennessee Central	Nov.	286	308,275	29,754	358,487	65,930	52,046	6,506	110,089	249,129	69.5	109,358	57,688	44,969	—3,207
	11 mos.	286	3,301,108	162,939	3,663,649	778,573	538,942	72,785	1,180,708	2,714,973	74.1	948,676	620,942	456,885	377,262
Texas & Pacific	Nov.	1,903	3,559,362	1,504,735	5,559,295	613,221	620,619	88,900	1,253,411	2,791,932	50.2	2,767,363	1,665,165	1,560,972	679,685
	11 mos.	1,896	32,766,542	9,649,730	46,253,099	4,740,818	6,937,846	942,467	12,045,590	26,646,831	57.6	19,606,268	12,028,610	10,902,722	6,171,599
Texas Mexican	Nov.	162	117,437	2,095	139,856	20,529	11,658	3,982	37,784	82,482	59.0	57,374	46,983	40,073	38,622
	11 mos.	162	1,329,837	6,119	1,567,099	243,327	151,387	42,272	441,167	968,062	61.8	599,037	517,557	437,337	314,748
Toledo, Peoria & Western	Nov.	239	347,020	29	350,875	44,634	18,268	21,856	66,524	162,792	46.4	188,083	177,012	158,458	41,586
	11 mos.	239	2,835,585	94	2,874,002	431,205	193,371	214,349	703,601	1,681,949	58.5	1,192,053	1,042,510	869,307	384,286
Union Pacific System	Nov.	9,837	27,846,599	5,456,327	35,901,260	3,843,726	5,365,724	428,369	9,503,314	20,576,819	57.3	15,324,441	9,523,767	8,351,788	4,768,706
	11 mos.	9,857	250,423,835	40,104,297	312,335,984	41,798,945	53,161,476	4,665,298	84,396,966	196,845,852	63.0	115,490,132	60,420,473	50,397,869	24,548,240
Utah	Nov.	111	115,450	.....	115,456	14,682	34,957	377	31,070	85,487	74.0	29,969	9,089	10,043	2,641
	11 mos.	111	1,225,989	.....	1,226,703	177,601	385,120	5,285	314,461	929,818	75.8	296,885	156,343	155,571	58,146
Virginian	Nov.	659	2,001,714	7,003	2,103,598	169,483	461,811	23,423	398,111	1,096,639	52.1	1,006,959	496,959	585,916	804,649
	11 mos.	657	23,463,708	66,915	24,427,454	2,048,572	5,128,149	276,042	4,283,474	12,241,381	50.1	12,186,073	6,128,573	6,799,810	7,799,946
Wabash	Nov.	2,393	6,442,903	688,857	7,533,091	727,124	841,555	155,291	2,183,647	4,128,777	54.8	3,404,314	1,965,323	1,410,346	887,726
	11 mos.	2,395	62,462,851	5,358,023	71,631,364	7,449,743	8,775,566	1,761,485	22,688,357	42,914,035	59.9	28,717,329	14,075,017	8,799,971	9,052,292
Ann Arbor	Nov.	294	420,104	5,300	440,145	45,554	75,321	15,211	170,007	318,862	72.4	121,283	67,023	62,037	45,627
	11 mos.	294	4,508,760	45,653	4,695,510	461,291	873,299	166,204	1,897,214	3,544,183	75.5	1,151,327	604,012	469,686	604,245
Western Maryland	Nov.	850	2,425,883	21,134	2,518,284	266,245	549,832	42,004	661,042	1,586,943	63.0	931,341	645,341	701,134	370,912
	11 mos.	857	26,867,064	197,061	27,919,786	3,026,309	5,955,988	487,823	7,274,066	17,497,444	62.7	10,422,342	6,328,342	6,514,511	5,415,632
Western Pacific	Nov.	1,195	3,564,271	200,073	3,885,781	219,722	461,107	71,664	1,036,165	1,889,207	48.6	1,996,574	944,183	767,964	426,309
	11 mos.	1,195	31,623,114	2,006,164	34,574,577	3,061,793	4,317,028	829,334	10,507,356	19,639,127	56.8	14,935,450	11,316,682	9,675,363	4,242,210
Wheeling & Lake Erie	Nov.	507	1,934,086	.....	2,006,219	182,277	332,327	49,865	533,312	1,152,633	57.5	853,586	103,654	270,811	281,443
	11 mos.	507	21,075,919	25	22,166,719	2,645,759	3,671,547	449,305	6,197,839	13,427,900	60.6	8,738,819	1,501,358	3,129,378	3,700,922

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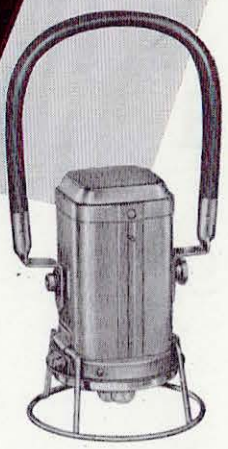

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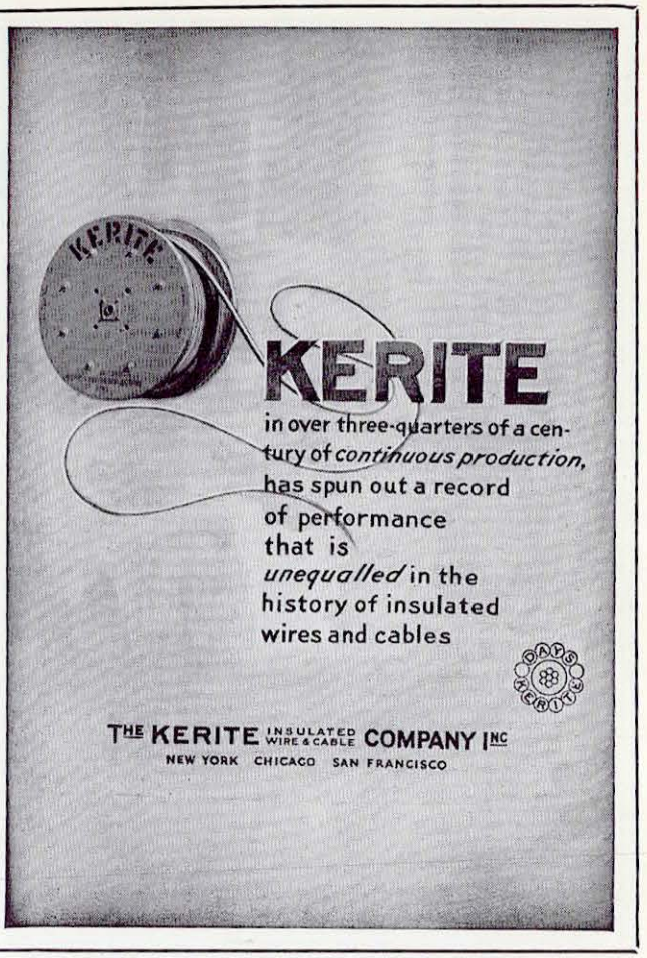

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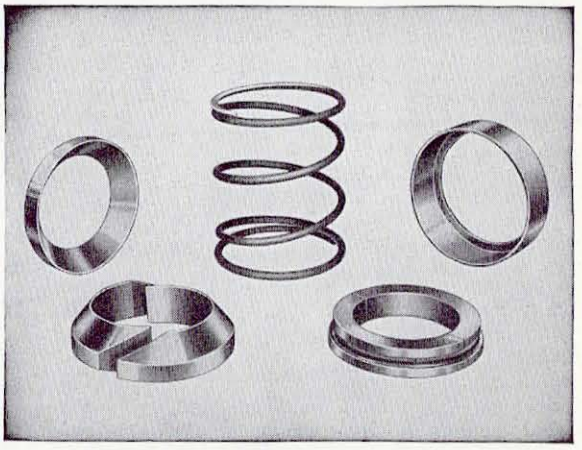

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For Index to Advertisers
See Last White Page

Index to Advertisers

January 9, 1943

A

Alaska Junk Co. 28
American Arch Company, Inc. 23
American Brake Shoe and Foundry Co., The 12, 13
American Locomotive Company 7, 25
American Steel Foundries 9

B

Baldwin Locomotive Works, Inc. 4, 5

C

Carlton-Coast Railroad Liquidators 28
Caterpillar Tractor Co. 15
Classified Advertisements 28

D

Dulien Steel Products, Inc. 28
Duryea Corp., O. C. 2

E

Electro-Motive Division, General Motors Corporation ..... Front Cover

F

Franklin Railway Supply Company, Inc. 22

G

General Electric Company 7
General Machinery Corp. 6
General Machinery Ordnance Corp. 6
General Railway Signal Co. ..... Back Cover
Get Together Department 28

H

Harbison-Walker Refractories Co. 25
Hooven, Owens, Rentschler Co., The 6
Hunt-Spiller Mfg. Corporation 26

I

Iron & Steel Products, Inc. 28

J

Justrite Manufacturing Co. 29

K

Kerite Insulated Wire & Cable Co., Inc., The 29

L

Lima Locomotive Works, Inc. 21

N

National Malleable and Steel Castings Company 3
Niles Tool Works Co., The 6

O

Ohio Locomotive Crane Co., The 29
Okonite Company 20

P

Pennsylvania Railroad 11

R

Railway Education Bureau, The 28

S

Schaefer Equipment Company 31
Simmons-Boardman Publishing Corp. 8, 10, 28
Sonken-Galamba Corp. 28
Superheater Co., The 24

U

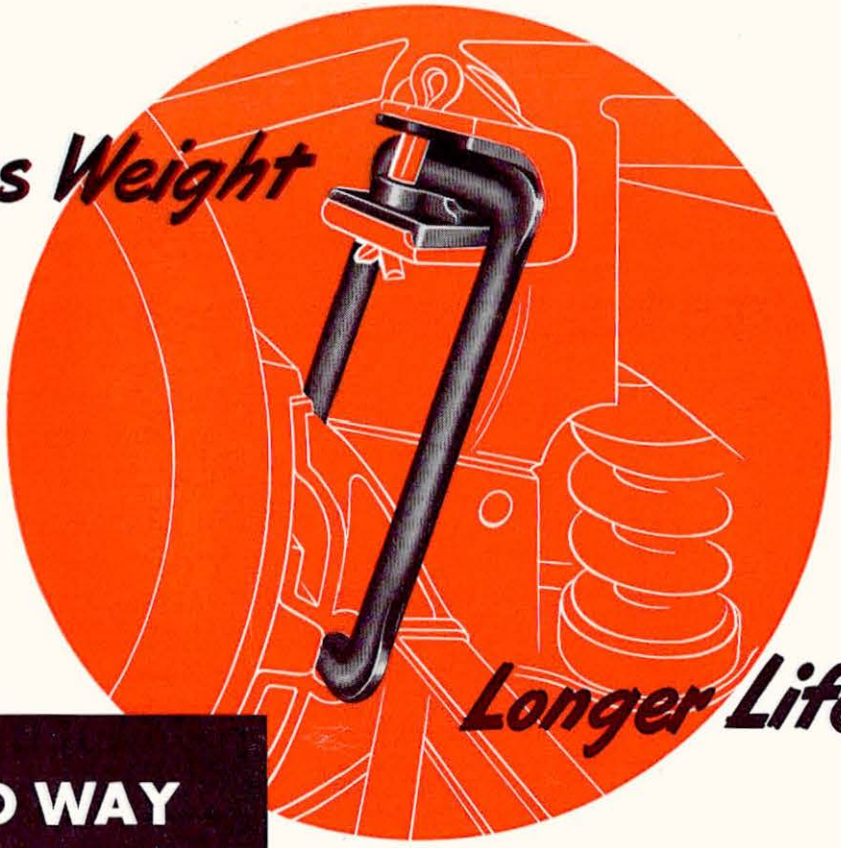
Union Switch & Signal Company 18
U. S. Metallic Packing Co., The 29

V

Vapor Car Heating Co., Inc. 29

W

Westinghouse Air Brake Co. 16



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Car hours spent on repair tracks do not help the war effort. Cars equipped with Schaefer Forged Steel Foundation Brake Gear Appliances roll up more miles between shoppings, speed vital war material to destination and conserve more hours on busy repair tracks. Use them on all new freight cars—and for replacements.

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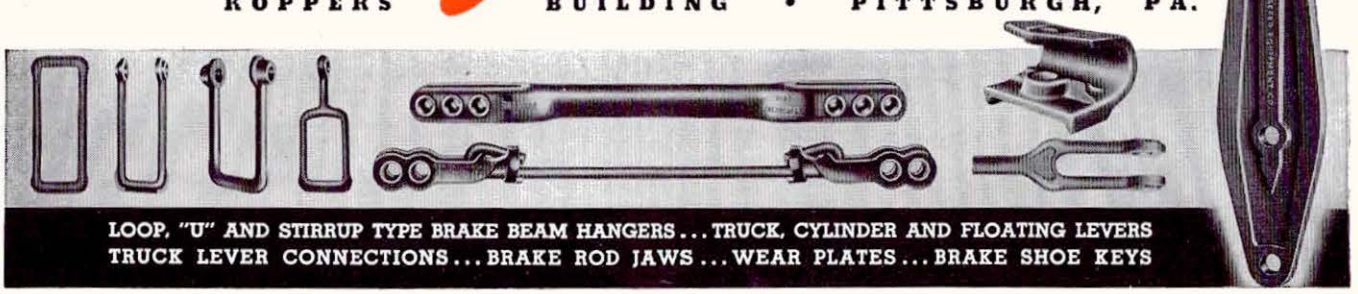

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On the main line, in terminals, or in classification yards, modern signaling conveys information to those in charge of train movements — and performs tasks which expedite traffic.

G-R-S MODERN SIGNAL SYSTEMS provide:

SAFETY— a requisite vital to the movement of munitions, troops, oil, armament materials, etc.

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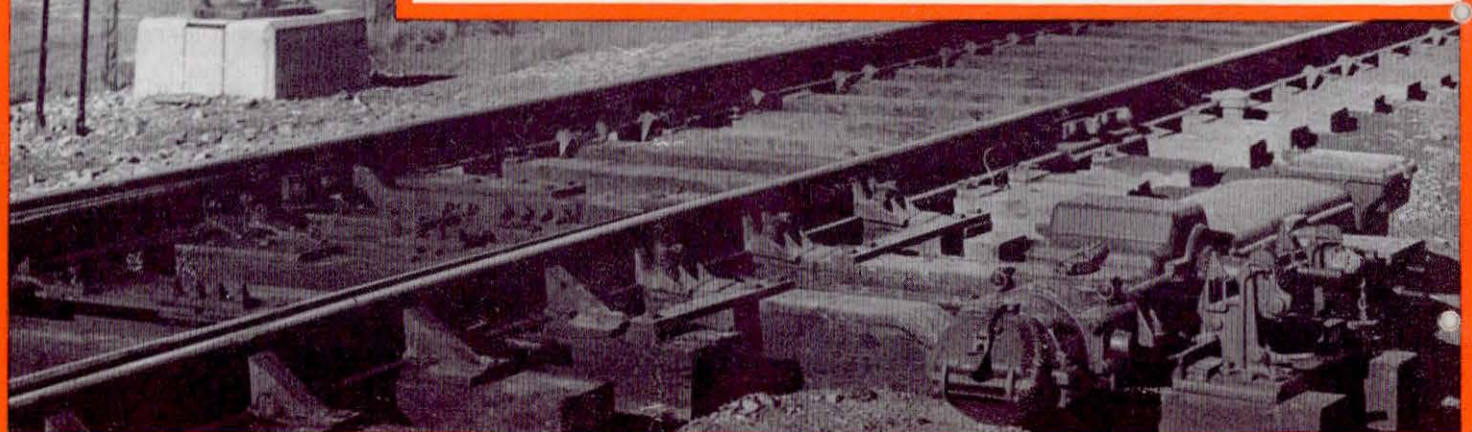
For the least in material outlay, and in the shortest time, modern signaling can do more to increase the overall efficiency of many war burdened lines than any other single agency.

Ask our nearest District Office for details.



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